```
cgacgcatgt tagctaagag caggtatagt aaggccccgc tgtctcccgc attatccagt 2160

aatccgactt acatctagac agttgttatg tatacctagc attgagccag gctccactca 2220

ggttcaggta ccgttttctg tactgtgtac tggactagaa aaataacaat aaaatcctgc 2280

aaagtataac actcacatca cttcaggatt caggtaccgg gatgaatccc ttgatcgccc 2340

tctgtgtgac aggacgagac agccaaacag ccaaattcgg tggacaattg cagcgattcc 2400

ctgatctatc gagattctgc agtcggaaat cgtatttcct tggtcttgat cttgattttg 2460

agtccaaccg ccactgtttt cttaccacgt atcccggtat tttcgtctat ttgagtttct 2520

cctgatcagc ctcgataatc tgtgtctgaa ctgccccggc gcttttttaa ggcaccaccc 2580

gttcgcgggc acgagcctcc gtctagaccg ttggcgtgat cgttggcgcg aacttcttat 2640

ttattcgatg tatgttttta agctgtctgg actctagaga actctgccag gcaaggagac 2700

tccgtcgttt atggacaaca atgccattct atagcagaaa tgctaacgca ccccttttct 2760

agggtagggt ccggacagct gcacctctag ttttctccgc tccagcattg aaaatgggat 2820

gcgcgtggcc aatcgctaac cgcccaaaac cgcaccagtg ctggcgagag aacggtggtc 2880

cgagccgtca aaccatcctt gatccatcct cgtcgcggtc ttagatcaat ttccctgcat 2940

cttgtgcccg ggggtacggc cagcagtgtg gattcgccct cgcacatttt cggttgcaca 3000

gcgggttgat ttaatgattc tataacctgt gcctgcagtc tcttgatgtg cagtgactct 3060

aaatcaattg aaggacatgg atttgtcttc cctgcacaat gtcgcgcgcc tcgcaagtca 3120

tggctttatt aatgtgttcg tcctcgtgct aaactgctaa tcggctctta ctgacagaaa 3180

ctttgacccc ttcccgcttc ccatgagcgg tcgaggtaca tgacaaccga tcgcaatgac 3240

gctaaaatgc gatgtcaatg gccaggaccc gacctctttt gtggcccaaa cgataagagc 3300

atggtcctga gtctcgaatg cccgggctct ttcggaaccc gtagctcaag tgctacctta 3360

ccgtctaagt cgacagtgac agttgacttg aatgctagtc caagcgtgag gccaggtaaa 3420

ctaaccacat cgcactacgc tttagagctc agtgtgagaa gaaaaggcgt gaaatgccca 3480

gaactagact cctgccatta cctacatcaa agatatgcgt caaatgccag acagcttggt 3540

tgaattcgca acatggtttt ctttcttttt ggccagctag cggatagcta gtaccatttt 3600

gtgtcctctt gggtcttggg cactgaaca gtcgttcgcg cgatagtgga tagagagctg 3660

aggctacatc ccttgagaag ttatcgagaa tgagaacaag aggacgcaga tggagcttga 3720
```

11672

```
ggcgtttaag atacaaggac ctagatgaga aggaaatgta gtcaagacag gttagcatag 3780

attctta                                                           3787


<210>      5738
<211>      4423
<212>      DNA
<213>      Aspergillus nidulans

<223>      unsure at all n locations
<400>      5738

acaagaggaa gaggacgagg aagaagagga ggatgaggaa gaagatatag atccagaagt   60

caggcgcaga atggaacttc gcgaaaggat ggcgaagatg agtgcgacta tgggtatgat  120

gggtttcttt ggtcctcctg gtggcatgcc ggctcctggg cctgtatccc gaaagcctaa  180

ggctcccgtt caaagcgaga aagactctgg tgaatcggag acagttgcgg ctccaagtgc  240

gccgccggtt cctgtcatgg ccctacctgg aatgaacgcc gttagatcgc cattggcttc  300

ccccactttg gaaaggaacg acgagcctcg atcaatcgca tcggttgaac aatatggttc  360

ggccggacct tctgacagtg cacctgttcc agaagatgag tctgaggagg aaacccctcg  420

tcgatccgtc gataggccac cccctactcc ccatggtatg ttcctcattc accgtcaatg  480

tcttctctat gttttttgac tgacaatttc gctacttcag aacgccctgt gcccccctccg  540

ctcccccga tggatacgcg ccctactcct ccttctagct ctcatggtct gccatcgtcc  600

cctcctcaaa ttccgggagg tgagtattga gacacccatt gtctagttcc tttacctaat  660

ataaacccat gtcacctagg tcgtcctgta cctcctcctc ccccgatgag gagccctact  720

tctggcggcg aggactctga tgatgagctc tccgtacacg cgaaaaacat gtctctgaac  780

gctgcggcta caaatcaaca ttcggagcca gcacctccag tgccagacca tctcgactct  840

cgtcgttcat caacctacga tatgacttca ccgaagtcac cgaccgtttc ttccgagaaa  900

agactgagtc gacctcctcc gcctgttcca caaaataacc ctcctgttcc tactcaaaat  960

cggccgcctc ccccaccgcc tcagctacct attcgacgta gttctacggc tgatagtcgg 1020

gccagtattc ctcacccacg tcaggctggt gaggacgttg aaggcgaggt caccgaatat 1080

gatggtgatt atgataccga catcgcttcc ggtgccaagt tcaaggatgc attgaaagca 1140

catggtcggg actctagcat tgatgaagga actgccaccg acgatcaatc tcttcagtcg 1200
```

11673

cctcgcagtc cgccagagaa ccgtccacca ccaccgcctc tttctgctcc cagaggggtt 1260

ccgcctcctc caccctctca accaccaaaa agttccggtt ctggcagagc ttctatagat 1320

gcgcccaggg cgcctcctcc ccctccgcct caaccccaga gggagctctc ttatggtcac 1380

gatgatgagt atgatccata ccgttataca gcaccacaac acggattgcc tgcaccaaaa 1440

gcagctcctg tgccgacggg acgacccgac ctgcctccac caccgccgcc ccctgttcaa 1500

gaagatgact cggacggtct gtacgacgca tcccctgtgc agacagctcc ggaaacctcg 1560

gcacctcctc taccgagcca gcctccagcg gcaatcccgc cgccgactcc attgagcaac 1620

cgtgcatctt tggacgtccc gagggcacaa cctgctgtac gaaggtccat ggatgtaggc 1680

cgtccatcca tggaccaagg tttcattgct atggatctgg acttagctga gggcacgctg 1740

tggtgggctc agccgaacgt tcctccccct gtccttcaga atcggcagga tatcctcctt 1800

gagttcgaag agtctagctc ttcgaagcga ggcgggaaga ctacgatcac caaggacgtg 1860

tacgtcctat tccgtgatta ctcccagact gtgatttctg tgagttttga tgcccgcaac 1920

ccagcggacg cagtgctgga acaacgtcat gagcagcctc ctctacctcc tcgccaggat 1980

cagcttgaga atgcccatgt ccaagtcggt actcgtgttt ctgagggcgt tacggctatt 2040

cagaacacca ctgtagctga tggtacgccg ttcggacttg ttaagcactt attagacccc 2100

ttgtcagacg cacttcgccc tgtcggtaac cgtgcgtacg gtgctttggt ttactccaat 2160

atggccaatg cttccgtgca gcaacatgac gagatccgcc ccggcgatat cgtaagcttc 2220

cgcaatgcac gcttccaagg ccaccgcggt acaatgcatc aaaagtacag tgctgaggtt 2280

ggcaaacccg accacgttgg cgtcgttgtt gactgggatg gaaagaagaa gaagattcgt 2340

gcctgggagc agggccgcga gagcaagaag gtcaagatgg aaagtttcaa gctggacgac 2400

ctccgtagcg gcgagtgcaa ggtttggcga gtaatgcctc gcagctgggt cggatgggat 2460

aattaaaaga caacaacgcg caccttgcct aataatgctt gatgacgacc ttaacgtggg 2520

atgagcttcc agatcaaacc cgcaatgaca cctgatgatt gattcccttc aagcgagagt 2580

tcaacatgca catgcgcctc gttcaatctt actctcctgc tacactacaa gctcgacacg 2640

aagagaagat ggatggatag atgatttgtt tctggtacat tttaatgttc tgcacgtaca 2700

tggattaata cgacctttta gccaacccct gtattgttcg ccgtccattc tgtgatcacc 2760

tcaatctgtt ctcgaatata gcatttgttc catgtactta ttgatcctgt tatcgtttca 2820

```
tgtagcattg ctcaaaaacc gttctcttat cttgtggacc gaagagtcgt agtatgtatg 2880

ctcatatact tctctgataa cataggactt tgttctcgta ctctctcccg cttggtattc 2940

ggacttcctt gtgccctgat tccggtacta tggaaacagc ctttagttca gaaggtgcta 3000

gacactggga ttagagctgg gccgagcact ggaataatcg aatgctccat tttatcgacc 3060

agtgtaaaca agaaaaatca tcataaaagt cttaatgcat ccatgtttgc tgaccagaga 3120

aatcatacag caatccgcta tacttgttga tagcgaagca gcctacagcc cgttggctgc 3180

ctatcacaag gtttgtaact tgcgttaagg ggtgcaatgt gactgtcgca gtatcgtcaa 3240

tcaacgttag tagtcttcca atatctggtc ggcttgtcca tcccggacgg attgcctcca 3300

cgtcccagct ggaagctcca ggattagttt cgaggatctg ggacaagtgt ttgctattct 3360

gctcaaaaaa ggagaaatga tcaccatatc cctgccacga gaagtccggc agtagatcga 3420

gcaggtcttt gctcttctac taccgtgaat ggaagaggac attgcaagag gcctgtgact 3480

gtttgaccag acgcaacgct atattcgaaa tctttgtctt tttcactctt tgaaaattgg 3540

ggccattggt aaccagaatc cttctgctaa acggtctata gcacgaaggt tgttagcccc 3600

gttggaaaac ttggtgcgct tgatttatgt tgattatctt caggaaaacg tatcagcaac 3660

ctgtacattt aatctgagag attccagtta ccaagaacca tgaattcata cgtggaccgg 3720

gatgttgtaa ctgtaaggat ggccctatag ctttcctgca aaggattaga gcgtcctcta 3780

cagacttcgg ctggataacg ctgtaaatac tttctgaatt atgctcggga acctaaggta 3840

atgatcggcc ccaacagact aagcgtaaaa tgactgtttc tgacgaaaga atgttaagtg 3900

actcgaaagc aagacggaaa ggatacacgc ttcatactcc atatgcttgg agtaagcgaa 3960

gcagcccgga tcactgtctc aaagaccctt cgcgtagaaa gaataagagg gcctcaaact 4020

gagaagggag ataatttggt agctttgtaa taataacact gaacaggaag gcgcaatgag 4080

atgctcatga tgtgcggtac tagtagtagg taaggcagca aatagcgctg ccccaggcat 4140

cattgaccag tgcgtgacca acaagcggaa ctaactctag gcccttctga cctccaggct 4200

ccgtgccgcc tctccttctg tcccacagac tcacactacg ccttgaattc ttcctcatgc 4260

tcttgttgtc atcttgaatg ccccagaggc tgccgtcaaa tgtgccccct agggagcggt 4320

ttcaaagatg gcgcaagcag gtccgatcac aaacgtcacc cagaggctct tcatcgagct 4380

gaagtctaag aacgaggaaa cgcgggtccg agcngcatac gag                    4423
```

<210> 5739
<211> 12651
<212> DNA
<213> Aspergillus nidulans

<400> 5739

```
gattagttgg gtgtatgagg agtgaagatg aggttggact cgagctggtc cgatatttga    60

gtgtggggcg ctaagccgct ttgggaatgt atacttcccg gagactataa agtttacagg   120

atgctataac cacccgataa atctaactgt tgccctctac aaataatcag gcggagccaa   180

gggaagttct tgcattacta ggtcattaat atctttggac atccggactg aggctgaaca   240

ctggaagctc tggcaccggt cgatatgttc aaatcagtcc agaagggaag ctgtgcggca   300

aaattcagtc cttatggtga dataatgtat aaaagaatca ctatatatta tgaataccga   360

gttaaatgca gcacagctta gcttgccaga tcccatcccg cactaccttc catcccacat   420

aaagcccttc gttgccaaag ctcctgctcg gaagccggct ggcactcttc gacctgcttg   480

tacaaatcca gcgctcctca ctatagctat atttcctgat cgtcttaaaa ctcaagatac   540

ggtccctgtt ggctagcgtg aaggcatttc tggtcttgaa ctttttcact gctcagccat   600

cggctcgatt gccgaacaag ctgcggcgat tctggtggca taggctctgg catcttaatc   660

tgcttaagtt gctgctgctg ctgctgcaac tgctggtctg actgaggctc atgaggactt   720

ctgggatact tcgacctgtt ctttgaaccg gcacatgaac gaatgagtgc agtttcctag   780

cacatctttc cgctccccag cagatatccc tgatgcagaa cgagcaatag cagaagtata   840

atatgcaatt gttctgccag gtcaatatat tatacggaaa gtcgccctct aacgggttgc   900

cggagcagga taaacagagg cgtatttgcg gctagattgt acgcgagcaa gaagatagat   960

attcaacata agttttctgc tcgggaggcc tatcttgtta ctggaacgaa gccctcagat  1020

agtatataca tgacgttgga agcgtacgag atcacatgct gtggcgcact acatgcttaa  1080

tgttacaacc tgccaccgtc acggccgtgg taagcgtggt cacgcttgaa gacaaaaatg  1140

aagactgagc tgctgcctgt ccaccatcat ttcaacggtg cttattccgg ttctattctg  1200

aagactttga gtttgatcaa ctgtgtgcaa cgttttttct ttatcttatt atatatattt  1260

tatacttttt tttccttttg taaaagggag cgttttggag cgggcaagaa agattaagat  1320

tatgagagaa gattagaggc aggagatgaa acgtttcccc ggcgaggaat ttgcttccta  1380
```

11676

```
ctttggatga actcaacctg gaagcccatt ttctgtcagg caagcatgaa ttggtatttc   1440

gatccacgtt tcgagttttt gcttagacga ctcgactcag gtagggctgc cctacccccc   1500

aactccggct cggaattcga aatgcggctg cggaatgaca ttgcatttct gggggtaaat   1560

aacattatac atgtatcgat gctaagattt tgaccttgt tcaggataga gtggtgtttg     1620

tattctacgc aaactagtaa attcaacata agagaacgca taatatcgcg gaagagtatc   1680

gtctatcgag taaggcagga gccagctcaa gaagagccgt ccgtaatgtt cgcgtgtttt   1740

aaacacccat acactatttc gtcagcagcg agaggtgtgt ttggccgtgg cctaaattcc   1800

cgttggactt ctgctttctg cctacgttct actgtaggtg gttatcgacc ccggcccagt   1860

gaccgagtta ccagcacaaa gtaattcttt cacgagccat tgggatcttc tctggcccta   1920

gttgacagta tcggttccgt tcataaccca tgtagtagtg attgcaagta gagctggacc   1980

cgactcagat acgatagggc tgcgctgccc taaccccagc gccaaggtca gagtcattcc   2040

ttaatgagtt tgcacaccag agtatattcg ggagaactgt tcatcgttca tgcccaattg   2100

cttcagaaga acagatcctg gagcctcaga ggcaccgggc aaggcttaaa tgcagctaaa   2160

catcccgccg tctttaagca ccgtttctgc atggcactaa ctgtgccgct tgtgcattct   2220

tggcataaag tggactatac gattcagtga acatgaccgt gcatttgttg gagtgctcca   2280

aagtacacaa ttgtgggaat tggacggtag atcggtgaca aaagctttaa attgacgacg   2340

atcgccaact tgatactcca aaggttccga attttcagct tctcgtcagg atgaaagtct   2400

gcccgtacaa agccctctcg gtgcttgaga gtcttggcct caacgctctg tcctacaaga   2460

cctgtccagc tacagcatca gtctccgcct gcgtaagtca atatacagca cctctcagta   2520

catccataga ccgggccatt ctttgctgaa gacaaagtga atagtgcaca gcactccagt   2580

ccacctccct caagacctcc gtccacgacc cttcgtcccc agcctaccac atctcgcaag   2640

caaactactg gcgcgttgac aacacccaat tctatccctc ctgcattgtt cagccacgct   2700

cagcgtccga cctttccaca gccctctccg tactagtctc aaccaacgac aatacgccgc   2760

aatgccggtt tgccatccgc gccggcgggc atagcacgct cgtcggtggg acgaatgtcg   2820

agtatggggt caccatcgat ctctcggtgc tgaataggac ggtctacgat gaagagaagc   2880

gcattgcgtc gattgagccg ggagccaggt ggaaggacgt ttatggggct cttgcgaagt   2940

acggggtcgg tgttgccggt ggacggggag ggacggtagg cgtaggcggg tttctggtgg   3000
```

11677

```
gtggagggaa ttcgcatcat agcgcactgt ttggattcgc ttgtgattct gtggtcaatt  3060

tcgaggtagg catttccatc atcctcaaac tctcgaggct tcacacggat ccagagctac  3120

actgaccacg gccaatgcgg acggatgtag atcgtcctcc ccaacggcac cctcaccacc  3180

gcaaacagca cccataaccc gcgccttttt agagctctca aaggcggctc cggcaatttc  3240

ggaatagtaa cgcgcttcga catggagacg ttcccgcagc cgcgcaactc catatggggt  3300

gggatcgtca catacgagca cgacgagacc aacgtcaatg cccagatcaa agccttgatt  3360

gatttcacag cgaacgtcaa gaacgacccc tacgcctcgt tgattccact gtacacgtac  3420

atctcgacga tggacagacc agtcatcgtc aactcactcg tttacacgaa accctatgcg  3480

gacccgtatc cggatgcgtt taagccattt tatctgctgt cgaatatctc tgacacgacc  3540

cggcagacag accttgaggg gttggttgga gagttagagc cggagagtgg gctgcatagt  3600

aacttcttca cggtgacgtt tgcgaatgac gcagcgatct tgaagaaggc ggttgagatc  3660

caggaacgac tgattaggca ggtcagaaag attgcgaaaa gcagcgagtg gaatatcaag  3720

agtctgtatc agccgttgcc gggtttgttt gcggaaattg ggacgaagaa aggggggcaat  3780

gtgctgggtt tggatgagag gagggattgt atttgtaatt ctcctttttgg cctatttaaa  3840

caatactaac cagcagtagt ggacctcctt tggcttacct gggatcatat cgacgatacg  3900

gcgctgtttg actgggttgg agagacattt atgagtgagc tggatgactt cgcgcggtct  3960

gttggaggcg aatatcccta tgtctatctc aactatgcgg ccgagtcgca gaatccgctg  4020

cggagttatg gagaggagaa tctcgaattc ctcaaggctg tggcaaagga gtatgatcct  4080

catggcattt tccagacgca acttcatggg gggttcaaag ttactttggc gtagccggcc  4140

gagattcgtg ataaatacgt ggtcatctct cgtgattata aatattctat ggtcatatgt  4200

acagtacagg attatgtctc taaagccaag cgagaacctg gagtccaaca aagaagagca  4260

cagcgctcat catcgccccg gggcccaagc tggaggctgc ggataaagtt ccgcagcacg  4320

agtctcgatc gtaactgacg ccgttcatgt cggccgcaac ctggaaaacc gacccgttaa  4380

aattgccttc attgtaatag tcgactagca aaaagttcgg agggcgattc catagcgctg  4440

gtttggttag tacctgtcaa accaagttcg agaatagcta cttactggta cagttttcag  4500

ccatccggcc cacactgccg tagccatggt cggcattggt ctcgttgagc aaggccgtgt  4560

ttggtatgag cagattaagg ctggcgatgc tgaaatcaat gttcaggtta tggttggcca  4620
```

11678

```
tatacatccg tttcctggcg tcttccgctg ccaaatcagg cgggcgttgc acggtgcaag   4680

ggaagtcgcg gtccgtagga gagaagggtg tctcccacat ctgcgagaac tcatccatca   4740

accaggggta ggctgtctga ttggcctgat agtccatgaa gacaatcgcc cgtttaccag   4800

acaggataat gctgcccagc gtcggccagt catcaagacc cataggaatc atgggcggtg   4860

taaacacgaa atccatcagg cccgagttct ccatcggcgt tgtgaaattt ccagggtcga   4920

cataatcgta gttcccgatg agaattgtga ctacatcgta ggggtgctgc ctcagccatt   4980

cggtaatgtt gctgagatag tcttccaggg gcccgacatt cagcaaatcg cagctggtgt   5040

gacaaagata catcgtgcca ttcattatgt gagtttgaaa ttgcactatt cagtcagctc   5100

aacttctgat tccatcggtg agaatacata cgcattcgga ccccgtcgtc caactggtaa   5160

tgcacgtcca gcgcttgatt ggcagcgaca tttccttggg ccacgaacgg gctgttgtgg   5220

gcagcaacct gcgtgatatt ggagtatttt cggtcacaga actcgggcca gccattgcag   5280

ggctgtgtgt tgacgaccgg cgtctgggac gggcttggag tagcggaatg cgtcgagttc   5340

cccgttgaat tgccagatat agttgtttgg cctcctatca gcacagttac cgtgtcggaa   5400

gtacttgtaa tagtcgcgtt ggcggacgtt gtggcattgg cgttcggggt gcccgtcacc   5460

tgcacggccg ttgagccgat caccgtgcca tgggttccgg taaggtagac ggtagtcgag   5520

taagtaatat aatcccccga agggacggtg gcatcatcca cagtggtcgt gatagcgctc   5580

gcgatttcag ctagagactg cgagatggct tcctcattgg aatcggtggt ggtgctgctg   5640

tcgctgtcgg agtcggagtc ggagtctgtg ttttgggaga gcacccgact ggcggccaga   5700

agagtcagaa gccaagttag cctcattctg gaggcggtaa tggcagaatt aaggataact   5760

tcaagatgga gaggacagcc aggaagccag gggaaaagac aagagagtac tgaacagaca   5820

acgtcacggc cgcccaactc gagaaacctg atgaaggagc agataaactg ctccagctgc   5880

tgcagcgggt gtggcgagtg tggctgcgct aagtgaagtt ccgatctgcc tagcatagcc   5940

gccaatagta cggcttcaca ggggcggatc gtcggtgggt gacgtcgccg gctgacagcc   6000

acaagcccaa caacggtcca gactttttac ttttgatgcc cgttaggtca ccgcattctg   6060

agctgcagat gcaaacttac gatcgtgata cagcatttaa tgtacaccct acaattctaa   6120

agactccaac accttgttgg gggtgactgt gcgaagttta tatcattatc aaggcacagc   6180

acaaggaagc cacgactggc ccctaacccc tgagctgtcc aattatatta ccattcagtt   6240
```

```
tctgatcaac tgaagatcac tagtgcttca tcgttgcggc ctagagtgga tgcgtcggag   6300

agctcgacgg tgatccctct ggccactttt actgtagcta ccagccctgc ccaagcagaa   6360

ccttcatttt gaccctgctc cctccactct ttcatgcttt catgctgatg ctcaattctg   6420

ggctaccatc tctaaaaaac acatttcgtt atctttactc gcctattatt ttttttccca   6480

tttttttttt cctgctgctc tcgttggtca ccataatcta acgtcattgg gtttcttggg   6540

ttttcttttg tcgcgctgac tttctccttg gactatcctg atcactttca tatctattgt   6600

tatcgttact ccgcctcacc cgtcttactc gaccagcgta tttatatcta ccggtctact   6660

cagcagttgt attttaaaca ttgttaacgt gtctgcccgt tcatcccgca tcggccaggg   6720

tctatggcgg tgctacctcg cttccgcaag agctcggagc ggccggccta tggccggagt   6780

cgacgaacgg tactcacaca tcgcattcta cggtcgttcc ttcacctaat cgcctggata   6840

tttttacttc tcgttgtcat tgggaatacc tcggacaagc ccgttctccg acagacgtac   6900

ttcttaaaaa tcgacttgtc cgatattatc cctctatccg tacccaacgc cgtcttcatc   6960

aacagtattg cgcgatctat cggcctgcat gatttctacc aggttggact ctggaatttt   7020

tgcgagggct acaataacga aggcatcacc cactgttcga gcccaagac actatactgg   7080

ttcaacccag ttcagattat ccttagtgaa ctgctttcag gagcatccag tacgtccgct   7140

tctctttga tgatatcaaa cacacactga ccgctgtagt tgctcttcca tccgacataa   7200

cggacgccct cgaccttgcc cgagccgcct cccattggat gtttggtctc ttcatcacct   7260

cgacagtgct cacattcgtc ctcatctttg catctccgct tgctgtctca tcgcgcccac   7320

cgcagaccat ctcttccgac ccaggagtca atcggttaca ccctccgcac cgccgacgca   7380

ctttcatctt ctgccgcgcc attccattta cgatcatcac cttcctaact gccatcttca   7440

caatcgttgc cgcggtcatc gcgactgtta tgtttgtctt gttcaagaat atcttcacta   7500

gcggtgatgc atttgatctc aacatcaggg ccgaattggg tacccgtatg ttggcgttta   7560

tgtggatcgc tgcagcgttc aaccttatcg cgttcatcat cgaactgggt tcttgctgcg   7620

ctgcctgttg cggtggacga aaggcgcgta aggcgctcaa aagtcaccct gaaccttcca   7680

cgggcactgc taccggcagc gctacacccg agatgcgcga gaagagtagc ccgcactcac   7740

gcagtccgac gacatctgaa catcaataag cagcctatcc tggtatccgt tttgtatata   7800

ccagcgatag gaatcatcct tagggatcat caatatatat gcaatattac tcacggaaag   7860
```

11680

```
attcaggcta taaactcgag gaagatagac gggtttgagg tgtaggcggg ctcaatatgc   7920

tattatatac atttgctacg atgttacggt tacgaaatac aattgacatg gctaattgtt   7980

tatcggaatt cccgcacctg ctaacctgaa ctcggaacct ccttccggag tctggaaatc   8040

ccggcagatc ggcgtaggac aatctggccg ttcccgcctt ctcgcatgac ccgatgccct   8100

ggcgttcgac aagcacctcc aatttgttcc ccacacccca gattctgcac cccagagaga   8160

gaccctgatt cgttcatgca accacaccaa gtctttcgct accttggcat taatcaacac   8220

cggccgggca atctattccg gctcttttct tatttcttct aaagatacgg gatatcctac   8280

ttgactccat aactacaagc gtaagtgagt atacctcgga ctatccacag tgcgccgcta   8340

tcataacgaa gaatctggcg agtctacgtc caatgcttgt ccataatagt aaaatccccc   8400

gtatttaaaa ccttttcatg cccccaatcc cgactcatgt ctagatgtga atacgcatag   8460

cccacccatt tcccgttgta ctgactgtac tcactatgca tccccttcac ctcctgacga   8520

cagccctcct cacaacatgc acatcctctt tgccttcctc cctctctcac caaagaccta   8580

aatttgatga ctcttacacg aaagcctttc agccattctc ctggtccagc gctaaagtcc   8640

gcggcgcaaa tctgggcggt tggcttgtcc aggaagcctc tatcgacaca gcattctgga   8700

acacctatgc cccagacgca ccagacgaat ggacactctg tacaacactg ggcttgaaat   8760

gcgcatccgt cctggagcac cgctacgcca cattcatcac aacatccaca atcgacaccc   8820

ttgcttctgt cggtgtgaat ctcctgcgga tccccaccac gtatgctgca tggataaacc   8880

tccccgggtc cggtctatat agcggaaacc aaaaggccta cctccgaaag ataacggagt   8940

acgcaatcac gaattataat atgcatatcg ttatcgacgt gcactcgctt ccaggtggtc   9000

taaatgggct cgacattggc gagaagaagg gaaattgggg ttggttctat aatgccaccg   9060

catggaacca ctctcttgaa gtcgttgatg ccgtggtgga attcatcttt acttcgagtt   9120

cgccgaggtc ctttacgcta gagcctatga acgagccgac tgatcggaat cgggacgatg   9180

atctaacgat ggctgttttt gggacacccg cggcgctgtc ggatcgtgct gcggcttatg   9240

tcatgagctt ttggaaggct gtactggagc gcgtgaggac actggaatca ggaatcgggt   9300

ctgggataag tgggactata cccgtcgctt tccagagctt taaattgccc tcctattggg   9360

gtgggaactt caccgcggac tcaaatgtcg tctttgacgt gcataattat tacttcgagg   9420

ggcggaatac tacgtctgag aacctaccga catatatgcg ctctgatgca gaggagaagt   9480
```

11681

```
caataactga acaatggggt tcctgtctat gttggcgagt gggcgatcca agcggcgtat   9540

aacaacagtt ttgcgttaag ggagaagaat ctgaacgctg gtttgagcat ttggaggagt   9600

acatgcaggg cagcgcgtat tggactgcaa agtttgaagg cactgatgaa gtcaacggag   9660

aggggaataa gagtgattat tggagtttcg ggggatttat tgagctaggt tatcttggct   9720

gatcgatcaa ttccttcctg tgcgtatcaa tggtatatag catagatata ccaagcaaaa   9780

ttcgagagaa atcacactat aagcaccggg ctccatcgaa gcaacgtaat caaagacaag   9840

accagtatca aagttcaagg ctcaatagtt gaaatatgca atatcaagaa tatgtaaaat   9900

atcacgatgg tatatcagtt gttttctctt tctgattccg tccctcgcca actagccaag   9960

tgcaaaccat gtcacgctca cgaccacgtc caaccccttg gcatcggcgc cggggtactt   10020

gaacgtccac attccatcgc ggttaacgtc ccagaacgcc ccagaagcgg agtgcatgcc   10080

gcgcttccca gtgttggcgg cggagccgtc tgcagcagca gacttgtcga tcaagccttg   10140

ttgcacaatg gtgctgttca cggtgaagcg gtatggagga ggagtggata gtgtggaagg   10200

ggtggtagcg gcaatgaggg ccttgaggat ggagttctgt cacacaaatc acgttagata   10260

gtgtaagtcc cggcagctac ggaccgtaga gttcaggcgt acgattatct cggagttcca   10320

ttttccgacc tgggcgtggt cgtatccatc tgctttgtca agcgcggagt cacaagcctt   10380

gttgtgcatg cgttagtccg agttttttat gtggcaactt agggtacacg gtgcaccggt   10440

ctgacaccca caatggtttc agggacgcac ctctgtggca atcttggtca actccgcgac   10500

aggaacaggc tattgtagca gaagttagcg atcgctgttt ttccttgccg atatcacgcg   10560

ttaaagggcc atcgtgagat tgtaattcac gtacagtagc gggtgaggtc tcgacagcca   10620

ttgtgtgtat gtaaatgcgc gaaaggcttg ggtggttgtt gagagtcttt gggacgaagt   10680

cagtatgtct gttgacgttg agagaaggct ggcctgtgac gttgcccggt gaaggttgtg   10740

ggcagaacca gagatagatt gtgggggaga aatgtagacc gacaccggcg aagcgacaaa   10800

tccggggaag ggaaattgca cttacctaga aaaagcagtt ttatgcagga ttgtatcact   10860

gattgacttg acaaaggtca cagagaagga tcagggtcct gttgctgctg agaggacagg   10920

acactcggtg ccatcatgga cgacttcgcg ctggtggtt ggttcaattt ggactagcct   10980

ggccgacgct atgccgtagc tggctcgagc cagtatgtcg ttaccacatc tggattagcc   11040

tgttgcttgt cacgaccgac atcggcaccg gcgctacgtt agtccgcaag cgcctaaggc   11100
```

11682

```
caccagacaa gaagcatacc gcgtgcacgt gggtgctttc aggcgcctaa ggacggcaga 11160

agagccactt cggccaattc cgtgatggcc cggccgcccc atctggcatc cgctcaccac 11220

actcaagctc tgatgtccaa tcaaccagat caccacagtc aagacctttt agcttcgtac 11280

cgcactatcc ttgcgtcgta tatatcgctt ggttcctccg cttttcgttt tttataccac 11340

tgtctgacct cctgctcctg atttctgact gctcgaagct atctagctca agctatagct 11400

gtcaccccgc acaatgtcga gccagccgct tctacaaact gctccaggtt cgtaatctcc 11460

agttacctag aagcgaaccc tgggagccac tacttatgcc aggaattagg caaacgcatt 11520

gccctgccta cgcgcgtcga accgaaagtc ttcttcgcta acgaacgtac cttcctctcg 11580

tggcttaact ttaccgtcat cctaggcggc ctggctgttg gccttctcaa cttcggagac 11640

cgcgttgggc gcatctccgc cggtctcttc accgtcattg ctatggcggc catgatatat 11700

gccctcgtga ccttccactg gagagcgcag agcattcgaa aacgaggcca cagtggcatt 11760

gatgaccggt ttgggccaac tatcttggct atctcgttac ttgcagctgt tgtagtgaac 11820

tttgttctac gtatgttgca ggattaggcg gaatgaggat gaatacagct acgctcgagc 11880

gcatgctata tagggtatat tcttggttac ctgtttgttg gccgccggct ggtcggcctc 11940

gaagcttaac gatgctacgt ggatgcatgt atttttatct catcgattcg acattgaccg 12000

aattccgatg tttgtaccgt cgaccgactg tttacgcttt tgcctaccag tctcttcatc 12060

ctgagatatt tttgcacaga tctctgttcc tcttgattag gcgatgggcg ttgtgtttgg 12120

acgcattcaa tggaaacttc tattattcgg ggttattacg ttccttactg gcatgaatat 12180

cgtgtaaaac gcggaaccca tacaaataac aagctgtgcc taaaacagtc gcagaatacg 12240

cgcttacaga accagcagcg gcaatcacca aatatttcga aaaattgctg gctttcatga 12300

ataattctca gttctgaact ccaaggtatc ggcaaacccc gacatgtcca acccaaacgc 12360

catgctaacc cacaaaaaaa catactacga aagaggaaat ggagacacgg tacgtttcca 12420

tatgaacgta aactcagcga ggcttcgagt agtcgtttag tgcaacacac acttgcccgc 12480

gatgatgccc actatactga cgtattatct gacccgaggc aagtcccaaa gacgcgcatg 12540

tgtcacttga cacagtacag atggccgatc agcgaaaagc cagtccagac catcgtgtga 12600

ttgcaaatcg tcgagaacat ggctgtattg tcatggaggc atagctgctg a        12651
```

<210>   5740

```
tggtataggg tttttaactt agctaattag ggtcgctgtg ccaacccccca caccgaactc   60

ttcggtattc ggcaaagacc ttacgtcccc ctcccgagtt gtatcgcatg cgggctcccc  120

caaattaatg cccctctcgt tcgaacgaat acttcgccag ttctgctagg tctcctgagc  180

acttcttagg cttctcgcaa gcttcccaaa gacagtgtcg gcatccctcg ggggcacacc  240

agcacgctta cagaactggg ctctggtagc ttccgccgtg tcgggcggga agggtaatcc  300

gtggaccgtt agcagaacat gcaaggtgaa cgccgcatca acgtgggtat tgaaggtcgc  360

atactccaaa tacttgtcct gtctcgcaac ctcgctcata gcagataagg gaacaagcat  420

agccgtattg ggagtcctaa aatccaattt ctccccattc ttcaatatcg ggaacgactc  480

tcccttgccc ccattcgcat ccgcgtacct ctcatgcagg taaattgcga tatcgaacga  540

gtccccaatt tttgagcccg tcacttcgtc cacaattaca gggagggtgt agaagtcgct  600

tccgtcggca aactgacggc cggcggggac gccgagagat tggcggacgg aggggatgga  660

ggggagcgga acaaaggtgg ttttgtaggg gacggacgcg aagttcaggg cgagccgggt  720

ctttgagggg ttcggagagc aggatagcga tggagtgcgc atagcaatgt cgtagaacgt  780

tattgaggcg ggggagtgg ccatggtggg ctgggtcgtg cggaggatgg tctgtgcctc  840

aaattggaga acagctgcgg gcggaatgtg gagagaagag gaattctggt gtgtagtctt  900

ggagaactca ggcgtggaga gtcctggcgt atatacctct agaatagaga gtagaggata  960

gagagctgtc tcgaggtgat gtagatggag agacatcaac agagtgggcg gggttctcgt 1020

cccaagttca cgtcacgtgt gaggtgcatt tatgtacgat actttgctgc aaaaatgcta 1080

aaaacaggtg atggctgcca gttaaccctg ctgctatacg actttgccca tcttgctcac 1140

aagcctcagg ataaattctt gtgccaattg gctaatcaaa gtggtgatct gcgctttagg 1200

tgggccaaga atggcgcgat gccgagtatg gttgtcgcca agcagaaccc tatgtagaat 1260

attatggacg accatctgtc tctgcttgta agcattcatc gcgatagtta ttggcctagt 1320

acaagtaaga aaggactccg tgctgcatga tcgtttgcgc gtgtaagctt agatgctgcc 1380

gacatcgaat tccctcgact ttagaagtga caatcagggc agcagggcca ctgctgggtt 1440
```

caaacaggaa ctggtggtaa aatgcagtcg taatgccaat actggtttgg ctatcgtata 1500

acggcaatcc atcaatataa gtaacattta ttcttttcgg gaaacccttg tataggactg 1560

gctttacgta gtcatcgtgt ctgatagctc tgtttataac cagtctccta gggagttagt 1620

cccgcaaaag ataaagcgcc tattcaagtc agctttcaga tcacagtgta ggttaccagc 1680

tgtgcagtgc atgacacttc cagccctgta taatcgcacc cgggtcttac gtttaaccct 1740

cctcaacgtt tggatgtctg aatcaaataa ctactctgtg gccaggaaca tactcagccg 1800

gcattcatag tcgggagtaa caaaaacgtc cagttatgtt cctctatgcg cattgttcta 1860

caataaagaa gaaaacatcc ggtatccaga caacaacagt cccttgggga aagcgagaat 1920

agaagacaaa agaaaggatg ttccatgagt ctgcctatcg cttggtactc tgcgggcttg 1980

ggcgttcatt atggcaaatg acggtaaaca agtaaccgta tcagtccatt gcgccgacca 2040

tctataggcg cggctgagat cctcatgtcg aatgatcccg tctgtcgccg gagctgtcat 2100

tagtgttcca aggcagtcag ccagtttacg gttgctcagt gacgcctcgc accagtcgta 2160

agtcactgac tgcagtgggg gcgctatcct tcgttgacag gaccagaagc agtctaccgg 2220

gatgatgaag ctctaggggg ctcccaagga gagacggaat agtagcccaa gttacgtaaa 2280

gcatgaacta ctggtgggag aagaaacgtc tcgtagtccg gactggcaga gctgtgggct 2340

aaatgtattt tacgtacttt tgccaacggt catccttgtt gcctgaccaa atcactgatc 2400

tcccgtccag ccctacctag ctaccacctc aattctatga tcgtcaacta ttccatcaat 2460

ctaaagcctt acggtttccc gactgtcaag ctcttctatc agggaaggcc acgaaggcac 2520

ctactttcag gttctaaagg agtatctcag tcgacgagct ttcctatccc aaggcggaag 2580

attgaccgtt tggtagaggc cgagaaataa aggccccatc atgcttccac ggtaaatgac 2640

aacgcggtcg acagcaagta agcgaatacg tatcgtaaat ataagccgta ctggtctcgg 2700

tgtctctcag atatgctgtg aacatggaat gcctgtctat acaatctcct gtagctgagt 2760

attcttaaaa aaacattaag tacaccccga ctttccaatg cccaacgcaa caagggcgtc 2820

ttcgggaact cattaggggt atattggtcg cagtagggct cgggtattgt tcggggtaag 2880

caaggctgat catcacttcg tcatttttat tttctatttt atttttattt tctggttctc 2940

gagatcttga gccgaaaatt tcagaggtca gatcgtaaat aggacaagct aagtgtcgat 3000

cggaatatcg tccattatga tcattcctgg taactagctt gggtcgttaa tggcttctat 3060

11685

```
taacacctaa aatggcattt ccacagcgtg taaaccaaga ctggtgtaaa agaccgggct 3120

agtgaataat cctacggtga gtgatctcgg caaccctcta gacaatcacc gtcccgctgg 3180

accgagcggc aaccccgaa gaacaggaca gccattatga tcgagtcgag tctctgtctg 3240

ataacttggt tggagctgca ctgaaaagag tatacatggc agtttgacgt ctatcctctc 3300

tccaaagcca gagaggtaag ccccaatgcc ctcgtctcat agtctgtccg tctagaggaa 3360

tcggtgtctg gttcgcttga tgacgagtgc ggtctgtaga actaagggca ctatacttat 3420

ccattgccag tagaaatgta aactagatta cgaaacaaac tggcaattgg tcgacaaagc 3480

ctcaaattaa ggtttagcag ggtccattag agtggaaaaa cttctctcaa ttttggagac 3540

gaaaaggtaa aagtgaagtg aaaagatagg agagatcgta ttctatgact cgcagcttgg 3600

catgcatgaa tattgagatt cctcagaaaa agctgcagtg gtacgtcgga taagcaaatc 3660

ccagatgtag ctttttcgct ctttttcgtc cttgtagggc tggtgttggc tttctgggca 3720

gaggatcgtt cctcaatacc gcgtgcaggc tgtcagcacc taacgcaaac cctactcatc 3780

ctccaggata attctgatcc ttcagcgtca cactattcct tcttcggaga actgtcaaca 3840

gggatagcgt atcccgaggg cgtggttcca ctctcttttc aggaaacatc actccatcac 3900

ccatctgact cccattccat ccggtaaaag cccttagtac tcatcccaat ccacacggtt 3960

ctctcccttc ccctcccctc ttcccaggtc caacgtgtgt ctgactcgtg cagacatgtc 4020

gtacgcggtt caaactcacc agatagaatt ttgcttcaag ttccaagctc tgagtcacgg 4080

ctgctgagtc aactcagtgt gggtcaacag tgtacgcaac cagagtttgt gtagtgagct 4140

cttgacagcc cgccaccgtt taacggatta gtattacccc ccggtcgaac cccctgtcag 4200

tgctcactca ggggcgagcc tcaagctgtc attgtaggcg gattatccca tacggttact 4260

ctgtcatatg aaaagccgag atctcaaaag agagtctgct attaccggtt tcagggattg 4320

tattcaacac caagtggaga tttttatgtcc gaggcggcca agcagccagt cagataacga 4380

ctgggatgaa taataagacg acgaattacc cgctaaaggc tccacagacg cattccagac 4440

gcctgaagat tcaacaatat ctggggcatt tgtcaagcgg gccaatagcg gcacatgcag 4500

agtctgccgt ggcaaagtcc actcactcca cggtcttccc gtccctgtca tggtcgcgct 4560

gtggaagtga tcaacagctg ggctggtccc cgggcctgta tagcattcca gctttagccc 4620

tttacttggt cgttttcgca cactaagtgg ctctccaaca ctagcgctca tcttcaccgt 4680
```

cccccttggag tcgcgctgac agctgcaatc tcctggcgga gccggatctc tcccggattg 4740

tattttttgac agcttgcccc ggagcagtta gtcgaacgcc ggcgcagtag ctaaaactct 4800

atctgaaatt cccttatatg ggcatcctcc cgcctacctc gaattttgaa gcaatgttat 4860

gagccgccgc ttgacgagcc tgccgccagg atgtcctcgg gcctcaacag tgatgattcg 4920

gacggccacg tccgcgagct agccgtcagg tcggttgcgg cctctttcct aagcattgcc 4980

accatcgctg tgtctttacg ttgctatgtc cggggctggt tgatcaaggg ctttggatgg 5040

gacgattggg cgatggttgt tgcgatggta cctataatcg actcgaattg gcattcattg 5100

atcctggaat taacacttgc aggcctttta tattatgttt agcgcgtgca tgattggcgg 5160

ctctatatac gggacagggc acagattcgc tgccttagaa ccgcagaatc gcgtgacagc 5220

catgcgggtg agtatcctga gtgccatact ccctctcctc cgtcagcccg gcattgctct 5280

ggtactgaaa ctaactcgga cggatagtac tggtggctct gcgaaatcgc ttactgcttt 5340

tcctccgtcg ggtgcaagat ctccgtctgc atcttcctta tgcgcatcac aatcaagcgc 5400

atccatatct ggattctcta tatcgtcatg gccctcaccg tgctaacggg attggtcttc 5460

atgttcatca tgctgctgca gtgcaagccg ctcgagtatt tctggacccg gacagcattt 5520

gatccggacg tcaaaggcta ctgcatcgat atccagatcg tcatcgccat gacctatgtg 5580

tatagcgcgt ttgcggcgct gtgtgatttc accgtgggaa ctctgccgat cttcctcgtc 5640

agcaagttgc aaatgcgcaa gaagactaag ctggctgttg tgggcattct gagtatggct 5700

tgcatgtatg ttcctctcaa gtttgctggt cttgtttaag ggcgatcctg gctaacagta 5760

tttcccctga tagtgcctcc tccgctgtca tcgtccgtat cccctttgtc aagactttcg 5820

ctgatcctga ctttctctgt acgtctatac gccaatctct gtgccctcct tttcgaacta 5880

acattgcttt tttttgcaga tgccacaatt gaaatagcaa tctggtccaa catcgaaatt 5940

ggcctcggta tcaccgccgg ttcgcttgca accctccgcc cgctcctgcg tcactggatg 6000

ggctctacga acgatccctc ttatccactg ggcacacctt ccccattccc gggtcgctcc 6060

ggatcgcgtc tccctggtgc ctcaggtcga gaccgagcat atccgctcgg ctcgatggac 6120

gacagcaacc gattacggcc agacaaactc gcccttacgg ttacgactgt gcagacacag 6180

cacgatcccg aggatcgctg gcctgtcctg cctgatggaa atagtagtga gagcggttg 6240

accaatgagc atcagcggaa tggcaagggg aatgggaata ggacgccgac gagatcgagt 6300

```
gcagagcgaa acgtgatggg atctggtttt gggggggattc accaggtcat tgaggttacg 6360

caaacgtcga cagatttgag gtcaacgagt gtgaaggagc atgtttagct tgggtctgtt 6420

tgatatgtga taccacgata gttaaaagat ttctttgtt ctgttatagg ctgttccagg 6480

tactttcgta gtgtctacgt agaccattgt gggtagctgt gcctaaacat gaaggaagga 6540

taagacgcac tggccatgtg ggtatataaa aatagtgctt atggaaaacg catttggcag 6600

ccatttgact ggcatcgtca taatggcgat cattgccacg aacccgggca gacttgccct 6660

aattgaactt tgggtacaac ttgagacgga gtggtgtggg tataggacgg ctgccatgct 6720

cctgcaattt tgtccaaaac cggtatttag acattactcc acaaatcacc ggcgagctaa 6780

gcgtaaaaca cggggatgtt gccatccggg gcttcttctg gaaatagcta atgaagacgg 6840

ttgtcacagg ttccttaccg cccatgtgaa gtcgcgctaa gaaaatttgc gcattcctgg 6900

cacaaattga tagccttata tatttataaa atgctttcta tatcaacaag tagccgggct 6960

agctcaatcg gcagagcgtg agactcttaa tctcaaggtt gggggttcga ccccccgtt 7020

cggctttcct ttttgctcca ttctcatctg cacttattat tgaacatttt ttatgcttgt 7080

gattttagtc tgcaaatgag atgttttttt ttatagttac ctaccggcct gagaacatgg 7140

agaggctata ccaaggcact ctttagatat ttatgttatc gtgcgtcgag ttttccctat 7200

tctagccacc agcctgcttg aacatggcga ttcgtgcact ccgaaaggca gacggatatg 7260

ccctacatac caccgagaat ggcggtgact gtgacagttc gtgcagtgtg ggcattatat 7320

ctacttatta aggaaattga tgcatcaagt ccaataagat catcgataat ctcagcatgg 7380

tcagcatcat gcatgcagca actcggcgca cggagaatct ctacaacttc gatccctcca 7440

aacggccttt gtcatcttcc acttcgcttc cgtcagatat atcgctagcc taagataagg 7500

ctacctgagt ccaatcccag ccaagggaac tcgactcgtg tgccaggtca gagacatgtc 7560

ggtcgtcaga tcccagtgtt ccgtcactgt tcctgcaaca gaccgcctct catacatatt 7620

cggtcccctt acaaggatga aggcgcctgg ccatcatccg agcccattct gcagttatct 7680

gaagaatctt tgggtgggtg tgcggatact ccatcgacca gataagtccc tcgttaagcg 7740

tctcggcaat ggcctacatt atctgagggc ccttggggaa cgggtgatgg tctatgacga 7800

agccaacatt cattttgtta tagccgtgct cgggattcta gcagttgggt ggaggtcaac 7860

atactggctt ctggtccacc ctagtatttg gtctccagga cacggcagct aaagtttgac 7920
```

11688

```
atttgctttt atcaccggaa caggcggatc ttgaggttat gctcgatgct gcgggcatat 7980

tggggattcc acgggacgct ttcattatca atgaatctct cggtggcagt gagactggaa 8040

ggcaaagcta ggcactggag ctaccttcta aatatgcccg gcggtggttt atacgagtgg 8100

cctagacttt taaggaacga ggcaaagagc acaacggctg ttcttatcta cattcagggt 8160

acttatactg gttcctcgac tcctgcaaca ggcactaatg cctacctacc cgcattccag 8220

aacaacggaa acaccccaga tcgcatgcca ggcgcactac ggtcttatcg gcagcgtcgc 8280

ccaagctcta aaccactaca cagtccggcc taggtgcaag gagatcgtct cgttcaacca 8340

cacattcccc ggtatgggct tccttttcct gggcatcatg atccccctta gggcacggta 8400

taggagcata ttcccttcgc gtcttgatct cattacgttt gtggcgttgt ggaccggttc 8460

aagccgactt gggtgatggc tcctccccat ttgatgcgcg caacattgac aatgccggcg 8520

acgccgaaat tcggaagcat caagcatgtc ctcacaggcg actctttcgt ctcttggaag 8580

cttgtggcga gtggcagccg aggtttgggt cgaaggttca gagtacgcat gggatgtccg 8640

agtaagtata ccattttcaa tacagggtag gtagttcgag aatataaact cgccgacagg 8700

gcaggctttt ttgcggttcc tgatccgaac gaacccgttc aagatgctaa tatggggatt 8760

ttcgtgccga acgttgaagc caagttcctc gacgagagta gcgacgtctt atctctgaac 8820

gaggaggggg tgtatatttg tacacctttt gtgagaaagg gatacctcga tgagccgacg 8880

catacggctc aggcagtggg tgaggattga tacatcaaga caggcgatat tggatggatt 8940

aatgaccgca ggattggtta tttcgttgga cggcggaaag tgagctgatt gctgtgtttc 9000

tttggtaact tgagtctaat cttgtgccgt gctgatatag gatagcccag gatctgttca 9060

ataataggcg cgaccggtta caaggtctga gatcgagacc gcagtctccc ggcatccggg 9120

cgtccgtgac gttgctgtta tccctgttgt tctgtgagaa ctagtcgtct tttaccagta 9180

actaagctag gcactctgg cttatcaact atattgtttt ctaggcccgg tagcgaatgc 9240

cctgcccctc gggcctacat tgttaagaca tacggctcga gcctgttaat agaggagctg 9300

atatcatgta tggcaaccaa atatcttccg cgcatgcagc tcaccggtgg tgctgcgttc 9360

gttgatgcta ttgaacaaat atggcatgtc aatgtcgcat gcacaggcac ctaactggag 9420

tttacatgta ggtcagatat agtagggttg atcgccggaa gctgtctggg ctagctggga 9480

gggtcttcag ctcgcatgtg tggaaatttg aagcagccag gtagaggcct gggcacagct 9540
```

tcatggtggc tggcgggttt agtatatcac acccaagggc gtccggcatg ccaagcctat 9600

gatgagagga ctacatacga tcaacatcac atgccaacga gtccaagtct aacatcacaa 9660

tgacaactgc ctataaatga catc   9684

<210>   5741
<211>   12267
<212>   DNA
<213>   Aspergillus nidulans

<400>   5741

tctctccgcc cagttttgca tctcctcgcc gccttcgagc gctccaaccc gtccgctgga   60

tttctccacc gggagcccca cctaacgttt cgctgtctgc gctcatctcg aaagttgcaa   120

tctcgggatt tgcctccctc cagtcgccct tgttgtttgt ttgtagatga attcactctc   180

ctccttggt ctacatgacg ccagactccc cagatgaggc tcttcacttt cgcggcaaga   240

ccctgactcc cgagagccct cgcccgctac acgttccgga acctaccagt atccctgtgc   300

tgcagaatca aatggacccg gtcttcaacg acacctcgac ttacggccaa gccgaggatc   360

ttcctggaaa cagctaccgt acacaatcaa gtgaacaata tatgaggtca agcgaggcgg   420

ggtggcatac agactccgca cggcgtggtc aggaacatcc gccgccgcag cagcaatcgc   480

atatacaagg tagcctccaa tctggccccc ctttaatgaa tgacgggctt gcggattccg   540

ataccacttc cccttctact ctggctacat ctgccgcttt acccacctcg cccaacccag   600

ttccttcctc agagccctcg agtgttggga aagctatgga ctcttctcta acggcacatg   660

ctccatcaga tcctagttcc cttgaagcct atcctgttcc cgatgcccac ccatatccct   720

cccatgctgc tcgcaacaat tctttcgcca acgaggtaga ccactccatc ggcaccttgc   780

aagcccagac ggcgtcgcag ggccgactag acgcggaggg aaagttggag ggtaatagtg   840

ctgggaacgg cgtcgacttc cagaacctcc ttgataatct cccatcatcc tcgacatctg   900

cccccgccct cacggtatct acaaccgcca tggcagcgga ccatgcttcc tctcaagcaa   960

aacgccgatg aagcgcatca atcttcctta ggcctgcctc cgcgccctcc gccgcaggag   1020

aagccctcca ttcaccccaa ttacaatccc accgttgata tacgttccta tcatcagctc   1080

cctgcccata acgcttctac cagttcaaac ccttatgccg cccagccgag taattaccag   1140

tccaacgtcg gagtgccgtc attaacagtt ggcgcgccag ggatttagtc cactgctggt   1200

11690

```
actcttccac ctcctcccgt tgctagcttc caacaaccgt ctacctctcc ggcggagaac   1260

caagaacctc ctgcacccgc cacgcaaaaa aatggccgag tcgacagaca gccactccgc   1320

tcagatgatg atgcgccgtg gggtccagag gtccagaaga agtacgatgc gttcctgcat   1380

gacgaaagag tatacgtgac tgaggggcta tgggatcgct ttccatatgg atcgcgattg   1440

tttgtcggtt agtgtacttc cagtatggca gtaagccctt ctaacatgtt cgttttttat   1500

acgcaatcta cccactgaga gagtgaccaa acgagacctt ttccacattt ttcatagcta   1560

tgggaaactg gctcaaatat cgatcaaaca acgtacggct tcatacagtt tctggaagcc   1620

tcatcctgta agcgggctct agaaggcgaa cagggagcca ttgtgagagg acgcaaagtt   1680

cgtaagtatt ccactggcct tgtatctgat tatggcctta gcctaactca tcgttcagac   1740

cttgaaattt ccaaaccgca gcggaatacc agaccagcgc cagctccgtc agaaccttca   1800

cgtgttacct ctgctcgtcg ctcaaggtca cccgactatg gtcgaggcgg accttccagc   1860

aatcggtcat cgagggtccc aggggaccgc tatgaccgac cccacgaacc cgcaaggttg   1920

ccatttagcg atttccggga cgaaccctct caccgtaggc gggaggatta ccggccgccg   1980

cgatcgccct ctccccgcgg ttaccggcga gagggttacc ggtctcggga taggacccca   2040

gagcggttcg atcggcgtga taggaggcgc tcccgttcgc cgtatggaag ggatagacgg   2100

taccgcagtc caagccctcg tggtcgtgcg acgtatgata gtgatgtgga catacctgtt   2160

cccaggcgag ctcctagaga cgtgccagac gtgcagatac tggttcttga ggagttggac   2220

cggtaagcac tatcattacg cgtcttaggc gctgtcacta attcagtcat ccaggaactt   2280

catctaccac gtagagagca gttttcgaaa ccgagggctc cgggtcgatg ttttagcgct   2340

aggagcacgg atccccctag acgctgctgt caagcgtcag gcctctgagg gcgtcctcgc   2400

cgtggtgaga ctctcacgac caagttatct tcagagaaaa ataccattac agatattcga   2460

ccgaagtgcc ggtgttgata atgtccggtc catcggtggg ttctcctcct atcgtccatt   2520

gacatttgct gacgtgctgc ttagaatatc cggaccttga accccatatg gcggcggaga   2580

ttgtcgttca ggcgcaaacc ctacagcgaa ctgcaccaaa tgtacctctc ccctctcctg   2640

cttatggagt tccacagctc ccctccgcac cgctacatcc tgctggtcct gcacttccaa   2700

ctcagccaaa tcttgcaaat gccatttcac atcttgatgg ggctggcttg caatctctgt   2760

tggctgccct acagcaacga cctgctgttc cagccacgca acaaccaatt cccccggtcc   2820
```

11691

```
caaatcccgt tcctactccg gacctggcga gtcttcttaa cgcggccact cgacagcctg   2880

ctccgctcag tgctccgcaa ccgtctgttc cgcaacaatc tctcacacaa actctacccc   2940

aacaaccact agccagtcag ccattcccgc tgcatggcca cggtgcctct ccaatatccg   3000

atccaaatct attgtcgctc ttggctaaag gcctcggagg acatcaccca cagggacaac   3060

ctcccatggc tcctcatcag gtccagaatc ttatgagcca gttgggcaag tggaaacaat   3120

gagtcacgtg ttcttgaatt cattattgcc tattcatcca acttgcggac tttgcaccaa   3180

caggagtcgg gcgttgttgt tcatattcgc ttaggctcaa gggttgagac tctctttgtt   3240

tttcacggtg accatgtggg cgttaacata aagagagggc tcgatatgat tgttcctatt   3300

atctttggcc attttgtcca tcggcgtccg ttatgttttt cattcccatc gctagttgta   3360

cctagtcact tcgtcatata aagtggagtg ttattattcc tgctcgagca cactccgaac   3420

aataataata ctaatgcaac tcggggtaat atgggtacaa aagtcgagtc gttaagcgta   3480

atatagtaca agtgtacaag tacaagagcc ctgggccgtc aacccagctg tccaaacggt   3540

tgttcccctt tcgcctggtt ctaagtccta cttgaagtcc ttcactttgg tgaccaccct   3600

tgcgacttca aatcccggac tgtagcagca tcttccttct tgatccgctc gattgtcttg   3660

tcccggttgt actccattac gcgcttctct ttgaagtatt tcacctgtca agaatcagcc   3720

tatgctctaa ccaccagaac tgccaacttc tcagcgcggg gccgtagata accccaagag   3780

ccaaatcatt acatacccat gtactcgagc aagccgcctc aaactccgca atctcctttg   3840

cacatttctt ccgcgcctcc ttatccccct taatcgagtc aacgatatcg ttatcgtcca   3900

agcaagcgaa aaactggtcg cggccgatcc agcaccgttg tcgtgaggtt cggtcgggcg   3960

ctatgcggcc gccgtctgag gctttgttgg aatcggacga tgaccaggga aaccagccca   4020

ttttgtttgc tgtttttttt tttctttgtc cgtaaacgaa tggaaagtgg ttgaggtgtt   4080

gtccgagctc gctgcttcaa agtcgggagc tccgacgccg ttccgcgctg ctcgctccgc   4140

ttgagttccg gtcatgtggc gctaaaccaa catagtcaac agtcattagt ttccagctgt   4200

caaccgactc cgacgaacca acttcgtctt cgtctgacaa cttcattgca acaacagcag   4260

ctgcagctcg gtggacgtat cgcggtctct tgcaagtaca tctgggcagg tttgttctcg   4320

aacgctgcgc gcctccaact cctgccgctg acgggccctt accctgttaa aacgtccctt   4380

cggggtgccg aggaagacaa aacgccggac aaccagtcca ctgctggtca ggactagttc   4440
```

11692

```
atgccccgc gccgacgacc tcctccagcg ggggctcgaa cagaccttcc accgctgaaa   4500

atcatccgca agatcatcct cctccaggcc gcctactatg tcaccgctac ggccctgatc   4560

ttgttcacta cgctggtcta cggcaccgct ttctcgctag accttgtttt cagttggaat   4620

gcgttgagag gggacacaac gctagggtgg atgctaggcc ttgtgtggat gttgaatagt   4680

tttctatggt gagcccctcc cctttcattg aatgcaattc cattcgctaa taagtcgttt   4740

tgtagtgtga tatttctcct tctcctcgtc tctcggtcaa aactcattcc cgactttgct   4800

ctcactatcc atttcataca ctttatcacg acgacgttct acactcattc tcttccgtcg   4860

aatctgcttt ggtgggcttt gcaatgcgcc agcgccgcgt ttatggtttt tctgggcatg   4920

tgggcttgtc agtggcggga actgcaaccg attagctttg gtgctcttgc tagcagtagc   4980

tcaagacaag gccccggtga gtcgtcacag gcaggtgaaa gcagcaatgg gctcctctcg   5040

ggaggggcac gtagcggcgg cggcgagtac gagatgatga acatgaaggg agaaggcgca   5100

gtatagcctt tccagctttt atttttatgt cttattctta tgttgttgct cggcagctgt   5160

tacggtacgg ggctaccgat cacttcgttt ctcactgtat atttagtgta tgtataccct   5220

agctggcatg ataatctaga gcaggcgttt tgggttcgaa tgtcatattg tttattggat   5280

agaacacgcc cagctccggt tcattaactg cagtatgaat gatgtatcct acctaacaaa   5340

cccaatggct tctccctgct caaaggctgt gacgagccat atctaaacca atagatttcg   5400

cataatcgaa cgccttcaaa caacatgcgc cttccgacaa caagctgcac caccgcatat   5460

ctccaactca actccaacag atgaagtggg gtggagataa gactgcaaag ttaaaaggat   5520

gattgcccct gccgtttagg ctcccatcta attaaacatc ctttgtatct catttatcca   5580

taccttatat ctgtcatccc attctcagtt gccggcctac tgacaagcga atctcaatgt   5640

ccaccaccac cgcgacactg acaaacccct cccccgcaca ggtggcagta gcacccaatc   5700

ccgagctctc gaacgagaac agtacaatca agaacattcc cccagctgcc acagacaaag   5760

tcttccaagc caccgcgcgc ggcaaccgcg ccggaaccct caagccacgc ggcatcccga   5820

ccttcagcga tccctatgcc gagcgccaat ggataaagga gcacatggcc gcggcattcc   5880

gcgtcttcgg gaagcaggga ttcaacgagg ggatcagtgg gcatatttct gttcgcggta   5940

aagtccctgc atttcctcct attttttatct tcgagaacca tgttttttgc taagacgttg   6000

tgcagaccct gtgctcaaag accacttctg gatcaaccca ttcgggaaac acttctctgc   6060
```

```
catgaaagcg tcagaccttg tcctcgttga tgcggaaggg tacgtgactg agggaggagc 6120

gcagcaagct atcaatgaag ccgggttcat gatccactcg gagattcata aggctcgtcc 6180

ggatgttatg gctgcggcac atacgcacgg gatttatggg aagacgtgga gtatctttgg 6240

caagcccatt gagatgctta cacagggtat cactcgtccg acccttgggg ggttttgcca 6300

gggttatgct tacaagataa tacagatgca tgcaacttct acggcaaact tgctgtgtat 6360

gaagaccacg gtggcgtcgc cctagcccag gacgaaggac gggccattgc caaagcgttg 6420

ggcaaggaga atattgcttg tatcctgcag aaccatgggt gagccacctt gccctctgcg 6480

ctacataatg gttacctaat atgtctccag cctcctaaca gtaggctcga ccgtggacga 6540

agccgcctgg ctcttcgtca gtctcgattc tgcctgccac gcgcagctga tggcggaggc 6600

tgcggcggcg aacggcatcc cgaaaaggat cattccggac gaagtcgcac aatatacggc 6660

tgatgcggcg cagaatgcgg tgcgttatac ctatccgcat attttggtta tggcttcttc 6720

ggcttcgaag gggtttttgag gccaaatact tgctacagta gtatactaat gggtgcagca 6780

ttactttat cacgaattcc agccggagtt cgatcttgtc gtcgaggaga gtaacggacg 6840

ggttttgcag tgattatttg agctaacgtt tgttgtatgg aagaaaatgg acgtagacta 6900

aataaacgat gcgtctcgtg gccatggggc tcgcagattt agggctttag gtgcgcaaat 6960

gagaaatatt aacttgacaa cacgacggac cttatcaacc tcacaaaaca ccctgggttt 7020

aactgttaat tgtgtctctc ttcagctcag gggtatacgg tgattatcga cagccaggtt 7080

gacaaccgct ggaaaagaaa tgaagataaa aagaaatcat aatacttccg atgcggggaa 7140

tcgaaccccg agctgccgtg tgagagacgg cgatgttaac cattacacca catcggattg 7200

ttggtatgca tttctttaat gaggatataa ctccatctat ccagtgaaca ttttggccgt 7260

tacaccaggc tgctcctttg gtttgatcac atactacctg agtttttttt tttttctata 7320

aaaaaataaa ggcgcttgca ggaagctaga taatccatat ccgtgcgcgt cggcgctctt 7380

cgggacatcc gaaaatgaaa cctcgatacc gtgatgtata tagtattgcc ttataataga 7440

aggaacggcg aaagcatttg ctacacattt aaccttttaa aaatctccct catcgacgca 7500

acgagatctg gcatagctca cttcttctgg ggccgccgat gtaagaaagt tgatacccaa 7560

gtcctagtcc tgagcgtata tttctaggat gtgagcttaa ttgtcggatt tagtgatggc 7620

cttccttact ccagaaataa ctcgtatatt ccgagccaac aacagagcaa cagaaaccct 7680
```

11694

```
aacacaaggg atttcattaa ttctaagtat aaggattgta cagccgcccg cctagtattt    7740

atacaagcta ttccttacgg agccgcataa gtttcaacga taccctctcc ttctctccgc    7800

aagccctccc atcttcatcc ccataatccc gatcccaatg ctattgccac cctgtccaga    7860

cacaccgcca ctacccccac cacttgactt tcgcgccggc tgagtcaatt cgctccatac    7920

ttgcgcgagc gagggccgga catcaggaag catactgtat tgcatactat agagactgcg    7980

acgatggata gggggcacga agcggccggt aaagaggcag aagatgactt gcggagagag    8040

gtagtgtttc cggaggcggt gggcaagttg gaagtattgg tcgaacatgg cacggagagt    8100

taggggatg gacttgttta tacaattaac ttagtccaga ttttgaagaa gagagagacc    8160

gggcttacct caaggtggat gtactgtatc gttgagtcta ctgaattagg tagagtatcg    8220

tgctcttcgc ggagttcaaa gcggatgccg cctgcggatg atcagttaat atgaagatac    8280

cacccccat aaagtgtact aacctggtag tctcctcgaa tccttgacgc gcaacatcag    8340

cgcaaagaga ggaaaatgat tcaagaaagc cagccaagtg tcaagtgctg ctttcaagga    8400

gattattaac atccgcgcgg acgtgaacgc gagatagaat acaatgactg tagggaggag    8460

gaaaaagaga acagtaaaaa gaatggtccc gaggaggagc tggtcaaggt catagtcaca    8520

agaatctata cggttgcgga ggacgttccg cttcttcccg cggaagaggt ggaagagcga    8580

aatgatgatc gtaagttgcc aattgaagat ccgcgctgat gcaatgtaga aagagtatat    8640

gtgcactgtc aggatggaaa tgagatccga gaaaagggcg atgggcatgc tggcacctgc    8700

gaagcttgcg cagccgataa cgtatatgat atgaggaaga tagggttgga gattcgcgat    8760

gcacgctgac cagttagcac cagacacact tgagagagaa tcaatcttac ctgcccagtt    8820

ctcgataacc cacaagaaaa gatcacccag aaatgccgca agctcattat tcagcttcag    8880

cccagctggc cagtccatca gccaggaaat cgtccgctgg agaccctcaa cagtccaacc    8940

actgaggata taattgattt ggtaagccac ccagttggca ttatcaataa tgtacgaccc    9000

tagagcgatc ccgataataa catcgtttgc cacaagccac agactgttgt agaaccggat    9060

atagtgggca tgataggttg tcacactttc ccagtcatcc tttctctgcc gcaacttgac    9120

atactgcgta ggccagtagc agaactgctg aaggcgaatg tccacctgct gtgccgtcgc    9180

agagatatcc ttcaacgccg cggcgtctgg ccgagctcgc cactccaaca cctgcagaac    9240

aaagtctgct ataacgcggt ggaagaccag ccctataacg aatatccggg taatgaccgg    9300
```

11695

```
ccatatccac tgccaaaaga cataggacac tccgagaacg aacaagtccc acaccgtcgt   9360

agccgactca accacccgct ccgaaacact catgctcctc ttcacgcgga tcccaataag   9420

gctgctgttc ttttctatca gcttccccat ttcgtatgcg caattgatct ggttgatgat   9480

gaatggaagc gccaactctt tgtgtgatgg aagatgcttg acaaccgtat ggagcctgag   9540

cttatccact aatcgttgcg cgcgagcctt ctgcgctccc tcctcggttt ctatcgtatc   9600

caataccccg tccgacttat ccgcagcaag catcttgtcc tccaaagcaa gcgaaatggg   9660

gttcagcgac atatactcca tcctggttgg atccggtcgg tgaaacataa taacctgaat   9720

cgagaggcct gtctcgggcg gacagtatat cttcgggacc ttgcacgagg gacgagtagt   9780

aacaatcaaa tgcgaggcat tgaacgccgt cggcggatct cgcatattcg tcgatcccaa   9840

tacatgcatt gacgaccgac cgcacagact aaaaatgcgc ggaactgggt gaggactgtt   9900

gcgaaataag atacccgcgc ggagagcatt gtcgacattc cgcggctgca ggcgagagag   9960

ttagcaacct tttctcaaac actcgccaac cgcgcgtacc tcaacatcct ctaacacggc  10020

aagcacaaat aaatcgagct ccgaattcct ccatccaaca attacacctg cgccgacga  10080

ccgggggagg tcgtatggcc aaaatacccg tagcaatcca tcgctcatct gcatggtgtc  10140

aaaatgtcat cctttaaaac gagccgcgac ggcgtagttg ttcgcgagcg gaaacaccga  10200

gatggacagg tcgagggtgc tggagcaacg gtcattagta tcgcccaaac tctttaacta  10260

tcagattgcc agcctacctg aatactctcc ttttgcgcca gatggtttat cggtacgaca  10320

agcaagaaaa agaaaaagga gaggaagaca aatccctttg ctgtcctagt ctgagcccgc  10380

cgttagcgaa cggagccctt tcaagagtag cgcgacgctt gaaagatagc ttaaaggaac  10440

gcaccaccac gccgtgatcc caagcaaata tggccaattc gtatagccgt gtgacgagat  10500

cccacctcgc ggtgatgtag cccgctacga agatgccgag agtgaggatg gaaaaggggt  10560

gcatgaatta gactattgca aatgcgatgt ggacggtcca gcttcgagtc aattagactg  10620

tacgcacatc acggacgggc actgtaaaga gggacgtaac gagggacaag tcgggttcga  10680

ttactgtatc cagcagtaaa aaggcagagg tatttggcgc tttgagctta aaactaagct  10740

gcacaggcca caaccaagag gcatagacga ccctcagagt agcggtgagt gttgtttgta  10800

ggtttctcaa atttggtact tacttcgact gcgcgggcgg gactctaaac ctgggcacgt  10860

gatttcatac tatacaggta gcgcagaaag tagtatggca atatatgact ggttgatttc  10920
```

11696

gaaaaacata ttaaatactt catagatgta tatcagatcc attacctggc agttgaatga 10980

cctatacaac cttgcgtaga atctacccga acgccataac tacctaccac cattgcagac 11040

agaagcatag ataacccgaa accgaagacc agaaacaact ctggatgatg gctcacagcg 11100

cctgaatccc ctggaagact ctattcgcct gcaacttctc gtccccttt accaaatccc 11160

tcataacctg cctcttctcc tcaagcgtca gctctctccc cggctcctca attgcactct 11220

tccacttcac cagcagcgct ttcaacagcg cactcccttc ttcgacttcc tcctgcgagt 11280

acttatcaat cgtcgctgac gcagcatttc cagcggaatc agcggacgta aaatcctcca 11340

gctcctcggc cttctgccgc gccatgttga ctaccttctc tgggaagcgg acgagctcag 11400

cgacgtggat gccgaaagac tggtcgcaga tgcctggttc aacgcggtag agcaatgtta 11460

ccttctgccg ggtctttctc ttctcttttt cgtcttcttc gttcgctgtt gttccgtcgc 11520

cgatgaatgc aacgacgtgc aggttcttga cagacttggg gtatcgatct gcaagtgtcg 11580

tgagttcgtg gaagtgtgtc gcgaatagtc caaagcagcg gatttcggtc acaatgtgct 11640

ctgaaatcgc ccaggcgaga ccgaatccgt cgtaagtgct agtgccgcgg cccaattcat 11700

caatgatgat caaggactca gaggtcgctg acttgaggat gtttgacgtt tcgagcatct 11760

ccgccatgaa cgtagaaacg cctttaagct gcgaatcgct cgcaccaaca cgggcaagga 11820

tgcagtcaaa gatcgtcaac tctgcttcgg tgcagggcac gaagcagcct atctgcgcca 11880

tgagcgctat aacgccaatc atgcggatgt aggtcgattt accgcccata ttggggccag 11940

tgatgataag gaatgaggac tcgtcgcgga taagggagac atcattagtt atgaaggaga 12000

tgtcgtcctg catctccatg caggggtggc gtgcttcttt aaggactgta ttgcccgtgc 12060

cgcgcgggtg gatcttgggt ttcgtatagg ctgttgctcg tgacagaggc ctgcgcaagc 12120

tcacatgaca tccgggagca gaccgcgcta gttgtcagga ccgacagacg atgtgcacgt 12180

tgcacctcga acaagtccgc tggtgcgctg gattgagaga gtgtcatgtc ccgggtgaga 12240

tgatcccatg tgtaagtcac acgtctt   12267

<210>   5742
<211>   10390
<212>   DNA
<213>   Aspergillus nidulans

<400>   5742

```
ggccacacaa caggcttttct ccaggcaaag agaaggcgag aaggattcac ggatagctgg    60

gggattgctg cagaagccgc ggctgccctt accatgataa acaagctact ttcacaggcg   120

gttttgcaaa cttcttttcgg ggtttggagt cgatagactt tgtaccgggg actgctgagg   180

tgccataaac catgatgaat taaaataaaa ttcatcagtc aaagtcctaa aaggaggtgt   240

atgttattgt gcatcactcc gagcggggac agtagtagtg cagtggcata caatccccccc   300

gacggtttag ccacggggca acccgatact aaagaacgaa atcgaggccc gaacgactaa   360

tctcagtggt ttgaaagtgg tctgatattg gggcgtggat tagccagccg attaatgcag   420

actactacta ctagtagagg aacgaacggg gctgtcccag gatcaaatcc cgaactgtga   480

gatgtcagtc cacaggttgg tcactatttg gacagggtat taccttccat agagataagc   540

tggaatggtc acaggtaatg agattcaggc taatgccggc gggttgtatt ggctgtgggt   600

gggcacttttc cctgtattaa tagacgtcgt cctgtttcct gaaactcccg gggtttggtc   660

cttgaataaa ttgcagtgca aacttggcaa aagtgaagtg gtggcaatat gcttgtatgc   720

atctcatctc tgtttttaagg gtctccaagc agcacggaaa acaaaataga agccaaggat   780

gggtatgaag cacaccatcg tccggagact ggttgaattg ccatttttta ccctgttcca   840

gtctatcaag atcacgtgcg ccggcccttt ctcggcaatg gctgtcccttt ctcatataat   900

aattagagaa tggtcgatgg gttcgaaaag tggatagtat gtggagaagc accggcatct   960

acatccggcc gtatagatct tcggccgata tctttcatgt tcgtcataca gtacgatgtg  1020

ctgataaaag gactttttttc gttcatttttc ggggtgagcg tggtggggat gggaaaccaa  1080

tattatttga agctgatttc agtgcggagt atacttctcg taattcattc attgtccatc  1140

acgcaaagct tgggagtatg attttcctgt gcttgaataa cccacgcgaa ggtccgtgga  1200

tgtaggatta ggtacgctgc acgacagaca aagtacaagt atatacccgc atctttctaa  1260

cggttccacc agcggttcat cttccgcata cggctcgtca gatgggagta cctgagcgga  1320

atgtttgaag cctttaacct ggatcgagtt cttctaacag cacgggctga gatcaatgaa  1380

tggtttcaaa gccaggaatt gttgggttct ctagcgcagc ctaggctacc gcatttggtg  1440

gtatagaagc aatcgcagaa tagcaaccgg acaagggggg tgctcccagg gtcgagagaa  1500

tgagaaagcg tatttatctt tggaatagga tcatggacag atgcggctat agaaccctag  1560

gctgggagct gcccgtagtt gggctggcgc agcagatctc cacaagctcc gcggctttga  1620
```

11698

```
tgccggtagt gggccacagc tgttgggcaa ccctggcatg catgagattc tctcccacta   1680

taggctttcc tcagatccag cttcatatga acatacctga gaagctgctt tggaactgtt   1740

ttcgcggaac caatttataa tcgagccagc aactggtcga ggaaccgttc gttgcaaagg   1800

gaatactggg agttttctct gatggcgctg tcaatgcgtg ttcccgtgcc aggttgcttc   1860

ttggggcctt ccatacgct taacgactgt atgtgcttag tacacctaat ttctcaagtc   1920

atagaggaaa ccattattca atcgtcttgc ggtggtgcca gggtgtcaac atcaattcca   1980

tcacacacgc cgctgaggca gttgaggccg tcatggatta agtaagaggt ttccatttac   2040

ctgctggttt cgccggccaa tgccaataaa atattcgaat ctcacaggca caatgatatc   2100

aatagcgtgg atatctgctc ggaactcaat ccattgctca attcgttgtc tttgagccat   2160

tgcaaaaggt tgtaccaggc ttgggggatg aaccacagtg gccagctgca aagcccggaa   2220

ttggcgatta gtagcagcac aaaactagga ggcaatgaaa ctctgcacct aggtagatta   2280

tttctgaaga agctgtgagg ttggtgagcg agattgggaa gagggagaag atggatgatg   2340

ggaagagaac actgaaggtg gaggtactgt tgaggaagga gctgccacag ggttttgcct   2400

ccttggtccg ttgtatagtg ctcgaccacc tccttccggt ctagtcctgt ctggtagcaa   2460

tagatctgac cttttacgct acgcgactga ggagtcaata ttccgccaag aatcgtaatg   2520

gttgacactg tttagaccgt gacccggttg gctgcaaggt cgaattctat tctttactct   2580

ccatccattc cagggttgcc caaatcctta ctctagtgca atatgaagat ctaatgcttg   2640

gtattatacg gttcaagaga aatgccagga acacgcgtaa cgctggccca cacgctttca   2700

gaaactacgg ccggaagctt gtgtcctctc agttgctggt caatcagcca catccccacg   2760

acaaactcgg ctcgagtgag cagaccgatc ttctgcccat ccacgaggtt ccagatctgc   2820

tcgaggacgt gattcggtag acgactcctt gaccagatat ctcgaaccac aaggttgacg   2880

accatgtcca gcgcggccgg aggatacatt caggtggtat cttatctggc tcgagatttt   2940

cgtctagtac ttggctggga tgtatgagca ggcctttgtt tgcagcccat acgccctcgt   3000

atctcttccg ctctttctct gtaatctcac ttctccatct cctgcgctct ccttcattgt   3060

gcttatgcgg gtgcttgttg ataatgtggc ttttgtgctg acggcgacgc tgctcatctt   3120

cgtcgtctga tctggcctgt ggtcgaagcg tctctcgcaa accgcccggg ctaggattgg   3180

gcgtacggtc ctttttatgt tggacgtgca ataaggagcg agatcgtgat cggcgcctgc   3240
```

11699

```
gttgcggtgg aggtggtggc ggcgactttc ttgcctgcag tgctctgttc gacgccgttg  3300

acgaggctgc gactgcgtcc gagggcgcgt ctcggctcgc aacggtgtga acgcttgtgc  3360

gactggcgtt gtgcgccggg ctgtacaagg acacaacgct cgggctggac gacagccccg  3420

ctggagactc ggcgcgtcct ggggtagatt ggtttatgta cagatcatgc gcggttgcgg  3480

ctcgtcgtgg tggaagtgtt ggcggccgct cttcagacaa cgtcgctgca gaagctttgg  3540

agcgaagagg cagaggcggt tttcgagctt catcacgccg cagtccgttc tcgaagcgat  3600

ggctagctga cttcgacgcc ggttcgctta gggcggggga cggtttccgc ggtatagggg  3660

gcggcacggg acgcggcttc cttatgggcg gccggggcga cgctgaagat ttggaagaca  3720

cgggcctttg atcagaaccc ggtttcggcg gcgagtgctc tggagtctca tcctgatacg  3780

ggtctagcaa tcgcgggttt ataactggct tccgaaccgg gatcggcgag gacaggtctc  3840

gactcggtac tgctccattt cgttgcagcc gggtcctttg cacgtcatca ctcgtagtct  3900

tgccgcccgg gccttgtacg cttccggtag cgatctcagc tgcaagcaac tgcggtgatt  3960

tctggcgagc aatctccggc acactttcat gggcagatcg tggccggtcg ctgggtgcgg  4020

tcgcggtgga gtttgcacta aacagggcga ttttgccctt gatcgaaccg ggctctggca  4080

gttctgaagg aggatcggga tcggaatcga gcagtgacac tggtggacga tctgccatca  4140

tcggggactg cggtttggga ggcaccgcat ggctgaaagc gagtaaagct ccctgtaagg  4200

cggcagccga agcgggcggg ttcaccgtac tattatttag agagcgggga agcacgactc  4260

gacgggaagg cgtcgaaggt ttggccattc gtgggacagt ctagctctgg accatggtcg  4320

cgacgcaggt atcgagcttc ggcttcgtga tcgttgaatg atcgttgaag ctttggcggg  4380

tcgataatga tagcagatcg cggtaaatag gagaaacggg acgcctcata tcggctaaga  4440

tgaggctggt gtcagctcgg gtgcacgttg cgcccaagag ccacaaatga cacatgccgc  4500

gccccagtta taatattaaa tgtttcaact cgttgttcac ggctgcggtt atgtatttta  4560

attattgatt atttgatatt tgcttatttg attatttgat tatttcaact attttaatta  4620

tttcagattg gtttataaga ttattttgaa cagcttatta ttttattcgt tgaccaaagt  4680

gcaattatgc cggtcccagc caactggccg aatctattcc ccaattcgaa agttctatga  4740

ccccgggcca ttaggccatt attcacggct ggctggcagc gcaggcttc cccgcatccc  4800

cggcctttaa ttctgggcta atatcgagcg acttctgcca aagggttgaa cgtgtgatcg  4860
```

11700

```
gcccacatta ttcctaaggc tagctctgat cgggagaaac tcgtctcttt cgtgatgtgc   4920

caggactctc aggctccttc ccatgccttc cgtatcccaa taccctgcga tacaatgcca   4980

ctcttttgac gatcttgact gagcgttgcg cgctgaggtc cgcctatgag acgctatgac   5040

ggaggaaaag agcgatatcg gccaaggtac ggagtcctta cccagcgctt tcgtctccgc   5100

atccccgcac tgtgtcggtc agtgacagga caggaaataa ccgttgaagc acagaaggtt   5160

cagaccctca ggaaattgac tccacgtcta aaagtgaagg cgccagccat gatcgcgagg   5220

tggaagagac ctcgtccgct acgggccaga ccaaatgctc tatttgccag agtacgttca   5280

ggcgacccga gcacctcaaa cgccattttc gcagccatac caaggagaaa ccgttcgagt   5340

gcacacaatg cggacgtcat ttctccagaa cgtatgttat aacgatcctc gcttttcatc   5400

gtcttcttta cagcgttctt gggccatcca gctaatgaat tgtccagtga taccctccat   5460

cgtcatgagt tgagtcatca caccatcggc gccgatggag ggaaagaccg cacgcacaga   5520

atcaccgtca agacgttccg tgcttgctat aagtgcgcgc tcgcgagggt acgttgtagc   5580

ggtggcatgc cgtgtacgcg gtgcgagacg aggtccctcg aatgccagta tccgaccgag   5640

cgacgctcga aggccaaaat ccgaaaaggt gtgacccagc ccatgttgct ggacgaccgc   5700

gatccgttct ctggacagtc ttcgcatacc ttctccgtac agggccccga aacgtcccga   5760

aacgaaggca gcgggaatcc tgacatccag cctggatatc agatcagcca attccagctg   5820

cgagtacgcg catcccagaa tccttccaca tcgtccccag gcggtacagc ggcgcccgaa   5880

atgcatgccc gttcacagaa tccgttggaa aatagagaag aatcgcatct cgtcgcgagc   5940

ccgtccctag ttcgaccgga tgttactgct gtatcagagg cagtgccacg gacgtttcct   6000

ccgcttgccg gtgttaacgg acagttttat actccggcgc aagttcagaa tgctatacca   6060

attgagcaaa gacggttcag ccacccagtg ggaagtcggc aacatgaaat tcctggacct   6120

ggtactgctg tttctggaat tccgggctcg ggcgatcaga atgcacagtt ggacttctcg   6180

cagtcatttc taggccaatc cacagtttct ccattaaact ggctttccag tgacctgttt   6240

cttgaatcgg cttctgacca tggcttgcca tccggacccc ttccgcagcc cttccaaact   6300

ggtgtattcg acagttcatt gggccaaacg acatggttgc ctccagtcat caatgcggag   6360

cctaacggct cgtcaatatc tggaagtatt tctcatacaa caccgtctgc aactacctcg   6420

cttggcgatg tggaaagccc aggtaacctc gttcgaggac cacggcaatc ttcacaatct   6480
```

11701

```
ggaccatcca agcgcccaac cgattacaat atcgacgaac cggttgagcg acttaataaa   6540

caaaggaagc agtcaacatg gcccactcaa ttcgcggagc ccctcgacat ctttctgaag   6600

tttcaaaacg tcaattcgaa gccccgattt gcgttccctc cgccaagcga agggcaaacg   6660

aacaccatac ccgatacaca agtcaattgc aagcttgaag atttgacgta cgaccagata   6720

catgacgcat tcacccggtt atgctgtacg cagaatttcc tattctccga atttgaaacg   6780

agcagttttc ctagtgcaca agccctgtcg aactttcttc accactattt tagcttctct   6840

catcccctat atccgataat tcataccaaa acattcaacc caaacaaatg ccattggata   6900

gtcacgctag cattagcagc aatgggcagt cattctgcga acctttgtga acaaaacgga   6960

actgctacag cttttcatga atttctccgt cgggctcttt gcgttgaggt gagatccact   7020

agctatcaaa tcgtttgtcg ccataactaa ctgagggcat ggttctagaa agaaaaacgg   7080

caaccggagt atctgcagct ctggctgatt caggcactgt tgctgagctg tatcggcaga   7140

ctccacggga atagtgaaag tggtaaactc tcagcacttg ctgactttgg tgatcttgtc   7200

aaccttgcaa accgccagag gctactatct cgctcggaaa atccaaatac ttcaacagat   7260

caatcgtcgc cagagcagca atggcttcta tgggttgaag aagaggccag acggcgaact   7320

ggatatgtga tatgggtatg cgatacggag gtcctattgt tctccaacaa tgctgactgt   7380

ggcctagctc gtggactgta cagtggcata tgaatttgat acgaaaccct acttttgcct   7440

cgatgacggc caagcgcctc ttccatgcaa cgaaaatatc tggcacgcag cctcatcccg   7500

tatctggaaa gggctccgcg aagaaatatc aggtattgcc agctgacatt gttacatagc   7560

atcttggcta acttagccat ttagagcaag agaagatctc cctatatgac gctgtgttga   7620

ttctatacat tgagaaaagg cttgtacctg aaatagggga actgagtcac atcttgctca   7680

tacatgccct ataccatcgg atgtgggagg tgggcgacta ttttcgccgt ccgctttcat   7740

tctggaaccc gacggcgaag aagcagtccc gaaaattggc gattccatca gggtctgtct   7800

ggctgccagg aattccgtcc tactccaaat ggcgcaacag cgcgtgcgac tgtttggata   7860

tcctccactg gacggcaaat ggcaccatag ccaaagcaaa tggccacgag catcccacaa   7920

ttctgcacct tcatacagct cgtattatcc tcctcgcgcc gttccgcgag attcggctcc   7980

tagtgaatct tctggccaca caaaaggtca attgggagga ccgccagaaa gtcattgaat   8040

ggcattacat actacgctgg attaaacacg accaatacaa agcgcgtctg gcggtcattc   8100
```

```
atgcaggatc ggtattgtat catgttcgca agtactctac aaacgccttc cacgagccag   8160

tcgctacgta tcttgcgatt ctcacactct gggcgtatgg cctgtgctac aagcaagcat   8220

ctccggatgt cacggccact cggcacgatt catctgtcgg cctagcgtt ataaacctcg     8280

accagccatg ctcagatgag ctcgtgcagt ctttcgttcg cgaagggcaa aagatgaaag   8340

gaatgttgac gaacgtaggt gatatctgtg cgccgcacgg gcctgagcag atcttcgagt   8400

ggggtgcgaa accctcgccg gtctcggtcc gtggggtata gcaaaggagt tcatggtaac   8460

tctgatgagg ctcgctgaat tggtatgata aagttctact ttacgctggg ataatgggca   8520

cacacatagc catccggagt tcctatctgt acattaagat atttcttcat cacatacctc   8580

aattatatcc cacgatagtt ttcagcgtac ctgtgaacat acgtagggct gcaggcgtag   8640

tcctggaccc taactatgat gtcacatgca acgttatcga taaggaggtc tggatggagc   8700

tgtagcctag gaagctagaa cgctgcctgg atttctccaa cttctgccct gtacgaagct   8760

cagatgcggg aaaaaaattc atatttaaag ctttccccga tagtgagccg caatttctca   8820

ctttttggac gaagtgatcg cacgagaata ggttgcaaca atggaaactg accaggacat   8880

gcatgatcaa gccatggctg gggaagagac agacctcgat gaaaagtaga ctgatccttt   8940

acttttcgtt ttaagttaca aataaagctg acaatttttt ttttctggct acaggtaccc   9000

caatcgcccc caaaacaaag ctccgaccct gccgttccac gatctctacg aaacgctttt   9060

ccgtccgctc agggagataa agaagaagcc cgttggacca gcaggaaaca ggagaaaggc   9120

cggaccacat ggcctgtcag ctgcgaacct gaatcctatc gaaaggcgac gcgatataat   9180

agagcgcttc atttcaagat ggaggaaaga ggtcggcgat gacatatatc cagcgttccg   9240

cttaattctc ccggacaaag atcgagatcg ggcaatgtat ggaatgaaag agaagataat   9300

agggaaaatg ctggtcaata ttatgaagat cgacaaaaac tccgaagacg gtttcaatct   9360

cttgaactgg aaactccccg gtcaatctgc tacctcgagc atggcaggcg actttgcggg   9420

cagatgttac gatgtcgtct cgaagcggcc gatgcgcacg gaattcggga atatgctgat   9480

tgaagaggtt aatgagaagc ttgaccaact gtcgagtgcg tccaaagagg aggagcagtt   9540

acccattctt gcggaattct accggcgcat gaaccccgaa gagctagcat ggttgatcag   9600

gatcattctc cggcaaatga agcttggggc gacggagcgg accttttteg atgtctggca   9660

tccagatgcg gaaaatctat acagcatctc gagtagtctt cgtcgtgtct gttgggagct   9720
```

11703

```
acatgatccc aatatccgac tcgacgcgga ggatcgaggc gtgtcgctga tgcaatgctt    9780

ccaaccgcaa cttgctcagt tccagatgca gtcactagat cgtatgatag ctcgcatgag    9840

gccaactgag gacgatcctg ttttctggat tgaagaaaag ctcgatggag agcgtatgca    9900

gttgcatatg gtgtcggatg cttctgcgcc aggggtaga aggtttcgat tttggtcgag     9960

gaaggccaaa gactatacat atctgtacgg aaacggtata tacgacgagg ctggatcttt    10020

gacccgtcac cttaaagatg cgtttgcaga cggagtagat aacctcatat tggatggaga   10080

gatgattacg tggaataccg aacaagatgc acctgagccc tttggtacac ttaagacggc   10140

tgctttatcc gaacagagaa acccttttcg acaaggtatt catccactat tcagagtctt   10200

tgacattctt tatctcaacg gccgagacct gacacggtac acactccgag atcgtcgaaa   10260

tgccctgcag aaagtcataa agcccgtaca tcgccgcttc gaagtgcact cctatgaaga   10320

ggcaacaacc aaagctgagg ttgaagcttc tctcagaaag gcagttgcag aagcttctag   10380

ggctggtcct                                                          10390


<210>      5743
<211>      4282
<212>      DNA
<213>      Aspergillus nidulans

<400>      5743

tggccttcca ttcggggaat aaagcgtcct ggaggaggtt gtcgtgaact tgagcggaat     60

cagtgggtga ctcgagcgag aagtcgtcgg acagctgcgg aggtgcagcg aaacggcggg    120

agggccggtt ggcattgcgg cgacggacg agcgatcagg gtcggcgaaa tcatgcgagg     180

tgggaaaagc ggcagacgtt gtgtcggtcg cacacggcca gaaccacccc cgagagtcaa    240

cccagacatg accgtgggct ggagatctcg tgggctcctc taattggaag gccacgaggc    300

agaagaaaag aatagataag gggagaggcc aggaaaggaa gcgagataga taggacaggg    360

aaggggatgg tggtagataa gagcgacgag aggagtgaga tggaaggaat ggaggggggaa   420

tggaaccaca gtaattggcc cctttgcgga ggaaagtcag cctggacagc tcggacagcc    480

tggagaggaa taaattcagc ttacccgccg ttgacgacca gaaggccggc tccaagcgtt    540

gcaaggtcga ggatgcaggg aagaagcgaa gaaggtgcag gagcggaacg taggatcggg    600

tctgagatca cgatgattaa tattaatacg ccggataac aaccctttca gaaaggatgc     660
```

11704

```
ataccccagt tctggtccag cagcacggtg agtttgggat aattctggtc gtatatctcg 720

gcagttgctt cagctcgggg cctctgatca gcttatgata tgtgcctatc taatctttt 780

tattcttct tggtggggg gttgcaggga tgggatcgag ctccagctct ggcgttggtt 840

gtgccgggac cgcgaacaag gctcctgtag atacagacga agcgcattgg gcttgcgatg 900

tatttgaatc aaccgatcgc aatttgcgcg aggcagcaag acgggacaag aatgagagag 960

gggtagtcta tactacgggg tgaagggaac aagggaatta ggaagcaagt cagaggatgg 1020

atgatgcagt ggtgagtggt tgatcaacgg ccagccagag aggatcacat tcagatgata 1080

aacagatgaa ttatggattc aggtaataga caaaataata gaaaaagacc catgtcagta 1140

ctagcagctg gttgcattac tggactccgg attcttctct tgtccagacg gtcttttttt 1200

tttttgctt cccgccgtaa gaaatcgaaa ttcgtcagtg ccgcaccgac accaagctaa 1260

tgctgaagca gacgcttgat tttgtcctta atagatccat cgatgaactt gtctgtctct 1320

acatatcgag tacacattta ccctttttct cgcgaagatt gtgaagactg aaaccactga 1380

agtgacctca atacatcatt gacaaaatat atccgtgtga aacatgtaag tgtaatacaa 1440

ataccgcggt cgcgaccggg aacgctgtaa ggttccgtcc cggatggaga ggactcgagt 1500

ggacgcctta gggttcgatt ccactttaat gcgagcttat tatataccca gaccgtctcc 1560

aattggagac cggatatagt ctaggtcgtc taaatcgtct aggtcgttgg caactcgcag 1620

taccttgtgc ttgtatctgg gtccgttctc cgcacatctg tactccgtag ccgtacacga 1680

ccatcttggt gttctggtgt tccgctgtcg attcaaagta ccagaaagta cccagcctta 1740

cccctgctag tggtggtacc aacgggcgat ggcccaccaa tggcgttaga ctatcccaaa 1800

agcaaatcgc tgcctctggc actcaagcag atccaagcct ctgcagttgc atgtcggcta 1860

cggtaattca ggctagcgca ttgacagtta gctgtcgact gactcggttt gtgactcgtg 1920

cgattgagcc gtcaatgctt ggtccattag ccgcaatttt gccgtattac ttccattggc 1980

tccgaccctg agttagtgca cacatttccc ttggaaaccc aaggccctag agtctagaca 2040

agccggcaat ctgggtgaaa ctcggatgca cgaggaagcg gcacttctct ggaggcattt 2100

ctctgaaata tattggctgt cactacaagt acctacaagt agtactgagt agaacagagc 2160

taggcacgca gagtaggtaa gcagagcacg cggtctcgga gtcaagcagc gccccagctt 2220

cccgatatag gacggcagaa tccacacggc acatggcttc gagaactctt gacgcagcgg 2280
```

11705

```
ggccgacgat atcggggcag tccggctggt cccgaggcat gccgagatgg acagggctag 2340

tgttgatgcc cgaacgctcc agcagcgaca ctgtaaaccg ggagtctcga aatcgggcgg 2400

agctaggcag gacgacgcct tgatgacacg cgcaacggcg atttcgcgga gacggtacgg 2460

agtctgatcg ctggtccctt gattcgcggg caacatcatc atcgatccaa agttttttca 2520

aggatgttct ggtgttcgaa ggcgaagagg cttgccagag attgggttct gatggagttg 2580

gtagtgaggt cggttcctat cttacccgag atctgtacga aaccgtaatg aagtgcagaa 2640

acaacggttc tgtcagtccg tttcagcaac caacacaacc ttgagcttag cctggacagt 2700

ccacatcttc atccgtattc caacaaggct gacagtagtc cgtattggat tgcggtatcg 2760

gatgcgggtg ccttgtcagc ctgagtagtg aactgatggc ttcaacagtc tcaagccttg 2820

ttccaaccct gttccaactt tgttccagcc ttgttccatc ttttcttggg tacgtttagc 2880

agcgtttgtc agccgtaccg ggttcagtaa tccggtcgta tcaggacgac tgcttcagtg 2940

tccatccata ccgaaccagc gatttccact cctctttcgt ctcgaggaaa ctgagccggt 3000.

gaggatcacg tccgcgtcag gtagagcctc cccagacttc cccaggcagc cggctcctgc 3060

tgtggccacg tgacaaggtc caatgaacga gcgcacaata agatcgccaa ggcccagtgc 3120

aggttggcca ggaagcatca ggcccacgac gagccactaa agtacgaaat ggacctgtgc 3180

aataagtcgg agacagtccg tgctgacagt gctagagccg tttcgatatt attatcctgc 3240

gacacaaact tggtggcgag ccgcgcgtga agcactgcag tccaggacaa gttagcctcg 3300

gaagaacaat ttgataaagc cgtctttgac tccaaaaatc gcagtttggg aactttggcg 3360

gccccgctta atacacactc taaagccagg catggagcca ggcatgaggt ccacagacac 3420

aatccacact cgaccattcg tcaggcaacc ttatcccacg cggttacaaa ggcggttcca 3480

ctgtggttct gataagctga taggaaaaga acctcggcgt tattacgctt ggtcaacgac 3540

tcatacacca tccagcgaag gagaccagat ggtgcagctg atcaaggcgg ggactgagtc 3600

caccgctacg aatagcagct gtcaagagcc ggacggggta gcatgacaga catcctctga 3660

gggacgcgtc acatattgaa tgatgttcgg caatatttca ttttgcaggc ttccggtggc 3720

aaatagacgc agtccgcgca cttgataaga cgttccaagt tggataaggt ggcggtcgcg 3780

atcgcccata tcagccgggg ggatcaagta cttcgccaaa tccgggcatt aagatcaagc 3840

ggtacgattc aggcttgacc gcggcccttt tcctttgatg accgtccccc gccgcacgac 3900
```

ggcgccccat ggtaccttca cgacccgtct cctgattcag ggaccaggat tctggtcgac 3960

attaccttcc ccagctgaac gctgatcttg ctttccaaag tttcaagaac gaggccgacc 4020

gaaaaaagca gttgtgcgca tgcctgaaac ttcgccagac aggcttcgcc ggagtaaatc 4080

cctcctgcta tgcggcgaag ttgtcccacc atgaaaaagc atctttaagt ggtggactcg 4140

caaggacttg tccgcctcgc tgtgtcgcct gcaagttgag cggacaccat ccgcaaccaa 4200

cgccctcaga atacccatag ggaggttcag accaccataa atcatagaca atacctggag 4260

aggttgtccg gcgcgtcccc gc   4282

<210>   5744
<211>   7151
<212>   DNA
<213>   Aspergillus nidulans

<400>   5744

agagtaagat ctgagtttga tgataccgtc tagttgaagc tcatattggc accacccaat . 60

aatcgtcttg cgacttttca cgagtatgtc gaagtcaact gtactggcct ttatgtttcc 120

atcaatgtgg atggataatc atggatgatc aggggctcgg ctagcccacc ctgtagcaag 180

tcgtccagtt tcttgtctgt aacgattatc ccgcctttgc cgccggccaa ccgtgactta 240

catcatcaca cgggtgcaag tatatgcgtt gctgagggcg agtgctgcaa ggagtagcgc 300

ggaaaccaat atgcgcgcaa tatgcatggc cgaggcaatc ataatcgtgg gaagagtac 360

ggcgagctag aaattgcaag gactgaatgg atattgccca agagctgcg aaagacagat 420

cttatgtgta tatatgctga cagatctcga attcggtctt tgtcgtgctg actgatgatt 480

accccagaat gagttcccgg cgagtatatt atgggattat acctccaatc cccagtggta 540

accctgatca taacactgcc agaaacagtg gggaagacac tctgcctccg gcttataggc 600

tcttggcctg ctatccgaga cttgatttag cctacgtcca caaaggcggg gcatcccaca 660

gactttggta catccagcaa ttgtttcaag catgcctttg gattcccagg ctcgtcagat 720

atacatgctt tgcaatgtca accctagacc acagcagatc acgtgtggaa ataagggccg 780

gccagatgga gggccacaac agctaaacta gactccttcc tctcgggaat atcgtgtata 840

atctctcctg tgaagtcatc gaacactttg cgggggacat aagcgttgtc gaagtaagta 900

gatcgaaata cgaagggggc tcagggaacc aagggaaaac tagacgttca tggcatcaag 960

11707

```
aaatcatgtc tcgaacttac attgaagccg cctgagctat agattaatcc tgtattgccc 1020

gttcagtcct cgtgacttat ggttcattct atccgtacat atctatgtca tatgcacacc 1080

acgtgcgcag gggaacctgt taagcttatt attctagtaa cttgactagg gcaatgcttc 1140

aacctctgaa ccatactgcc cttggttccc aattggcaga cacccgctag aaggaagtag 1200

ctggcccaca cgattacata gcgtggtaac gtccggccac gcgagccaga ggaggccaag 1260

ccaagagact ccagtgtcaa aacggtggga gagccgcaac ggtcgtgacc agatgaagat 1320

ggtgataccc gcagataacg ccataggcaa gcacgagcat gagaagccat gtatatacca 1380

ggtgcatgtt gaataacgca tgtgtggata atatgagcca ttctagagga ggatacaaga 1440

gcacacaatt ccattgcgct gtgccttgga tgaagcagag cctactactc atatgcgtgg 1500

tacagggtgc tgtggtgtga attaaacatg tggggaaaga aatagagtcc ctcttgggac 1560

gtaatactgg aggacaagct atatgtcagg ttcatacaaa aggagatgtt aagcaccaat 1620

gcaagggaaa gaaagtgaga agcagtccaa atcgccgagg atatacaatg ggagtcaata 1680

tgtgacgggc acggaggatg gatggtcgat taggtacggt agagaatcac cagggaatcg 1740

aaggttgtca atagtctgaa gctatctgtc tcctattgac tagactaact cttagccatc 1800

ctcttacgag gttggctggt atattatata cacgatatca ggagtcatga catcattctc 1860

ttctgacaga ttgatgatgt ggtcggtaac cgtctggttc tgggttcgat cccgcgctcg 1920

gaccgaacca gtgacacaat acaccaacta ctaggacatc caggcaagac aggtttgcca 1980

taatccagcg aatgaggctt ggggcaacca ggagagatga agtagttaaa taatgtaaga 2040

tatgtatccg ggaagtcaga agactcatac taatgtaata gctccccagg catggacgcc 2100

cttgaagcaa gcctaaatgg gactttcaga atcaatacaa gcgcatggag aataggttgg 2160

gagtaatcta tcgttggcag atggacgctt ggaatagtaa tgcagacgtc tagtaaggat 2220

aaagtgacca tgatccagag ctaccataca gaaagaggta acagaatcac gcatgagagg 2280

aagttaaatc tgtatgtcat acgaaataag caaggcaatt caaagcccct aaagtgtcgt 2340

aatatgccct gggcgatcgt gacggacctg cccaagcaag tccagccaga aatattatga 2400

tggcgaacca ctttcggtcc aaagcatgca gtttaggata tcaaaaagac agaactggga 2460

ctttagtagg agcaccatag caggcacccc atacctcgaa atccatttgc acacttgcag 2520

agtttggttc aatttcaaga tgactgatta gctgaagcca caagttgttt gagtattcat 2580
```

```
gagataggat agaacccgaa gcattcgtag actaaggagg agatagaaat ctctcgtggt 2640

aaggaccct  catttgggga ataagatagg ccttcttagg agtgaccaga gtgccgggag 2700

aaacacctgc gaaattgtct ggtaattgct aggatcagtt ttaggctcag agccttctaa 2760

tgtgatgcag gcagtgaggc tacaggggta ctgataccag caggtcaaga gataggcccg 2820

aaacacccct tactgacttt gaaaataatt gagtacatag ggaaaccgtc ataacaggac 2880

atccaagtgc tcacaatcta acggcttgag ccaaaagacc tactccttag tgttacgatt 2940

tctggtggct ctgttcaagg acacccagca gtattccaac acacgcagac ggccatcgga 3000

tattatggga cagagacctt gcggcgaaga cataagctcc aagccattta aatgcagggg 3060

aggagacatg tagaacttct ctacgctatc ccgttgttca tgtcctttcg ggagcaaaaa 3120

ttgcaatata tgagcgaagc cgtcagtcag cttggtgtgg aacgcaatat tgactactac 3180

catgcttcat ggccaatttt tgataaggaa taccttgagc ggatttcaat cgcattgact 3240

ttgctttgtg gcagcaacga tcctatacgg gaatcaaaat gaagagggag agtcagggtt 3300

gagctggaca gcttagcctg gtttgaaacc tgatcatatc tttcaagaca taaagacgaa 3360

atagaactaa acgggtctta agtatataaa actcagtcga cagactccaa gcttgacagg 3420

ttgcgaggct tcgctttcag gttctatatg gttattaatt gcccgcggta taaatgccca 3480

cccccgcaca gcacacgcta tattagatcg ggtgccgaca aacaaaagca catgggagat 3540

cacttgaagt aggccaatcc taaaagcaag gattcaaatt aactctgtgg aatccaaaaa 3600

cttcttatgg actatgacga ctttgcagac ctttagaaac cagaataaag aagtccgtca 3660

cgttcattga ataccgatca agcgtttagg tcctgaagtc cttattaatg actgcgaagt 3720

caatagtatt atagaatgcg atgcgccacg tcgagattcc agaggggttg ctttggtgac 3780

tgtagtaatg ttctgacagt gtgcctgcgt tgcctacttc tacatatata cgtctttagc 3840

gaaggattaa aagggactaa gctgagctga gctgagtgaa gtttgcaagg taagcgaatt 3900

gaccggcgca ctgagactga tcccacctcc cgtgtattca tgtctgtacg gatcgctaca 3960

ctggaatctc tcagcgccgt gccacgtcat gctgtggggg aaaaaaaacc cttcatgtga 4020

acgatgtcac acttaccgag ttctgcgaaa ttataactcc actatagaga ctactgcgcc 4080

tcttcgcccc agaggaaatg ccgttgggac gaagagcgga caacacacaa cgaacgggcg 4140

tgctggctat aggtctgtaa tctagaactg gttgccaagt ggacagaacg gagccgagcc 4200
```

11709

```
tattagcgca gacgacgggc ggccgaaaat ctcatcatcc tacattggtt agtctacata 4260

tatagtacca aacgtaacgt gctcttgtgc atggtactag cgggcgctat ggcgggcgct 4320

agggcagcta ctgcaagatg ggcccgaaga tcaccatgta ttctagagga gcaattgata 4380

catactcaca atacatatac tgaaaaaagt gtattacagc tccccacttg aaacagcagc 4440

gtacggcata ctgttcgaac aaaagggcaa aaacgtattt aaccatgtaa cgagtttgta 4500

cactgcttat tcaaccgctt gctttaaaaa aggtcaggag atttctcctt gtatttctta 4560

tttcttttaa cttcttacct tcatacaaag cttttcagaat gcctcggccg tcaataaatc 4620

ttgagccata caaggatgaa atttctaccc tgtataaatc aggcaaatct cctcctacta 4680

ttgctatgct actagggaat caatatgata ttcaggttag tgagcatatg attaagaccc 4740

gccttagtat atggggatc ataagacaaa ttatacagcc tcaaaagaca cagttcttca 4800

tgcttgaatc aaagttcttc tatatcaagt tggcctctca gagaacaaga tcctacatgt 4860

tctccagctt gaaggctgga atattcagcc tagaacattg aaatatgttc ggcatcaaaa 4920

agggctcttg caatgtatag taaatctaat tgctgattaa gctgaagttg aaagggtcct 4980

gaatcaactt tgtacagacc ttgctactgg tcaaattgaa ggatatggta taggaatgct 5040

ttatcagtac tttaagaacc aaggatttta aattggcagg tatgctatac aggaatattt 5100

cttcttttaa gcaaactggc tgactttgta caagggactg cttgttctct atgtataaag 5160

agcttactcc agctgctgta catcaacact ggcaagatct ttaacactat taaggagctt 5220

atattactcc aggacctaat tttatctggt taatagatag ctatcttaag ctagctctgt 5280

acagcatcga aatatatgca gcaattgata tatattcttg atatattatt tagatttatg 5340

ttggtatcag ctcctgtata gctgttagtg tcctttgaca gtttcttgac actgttaata 5400

ttgctcaaca gtagccttgc tttgtatgat tagactgtgg tacagagaca gtcttactgg 5460

ctgaagctta atataagctt cagcagtctc ttcatccaga gattgatatt agggactgct 5520

acttatatag aacaagcact tctaactaaa gaattgaggc gtggtggctt caattaaccc 5580

gtggtatagt gttttgatat agagtaagtg cttatatact atatactact ttgtacaaac 5640

agctaattaa gagtcaggag tactttcata gcctttaaga ggaaggtata ttctctatag 5700

atcagttaag tgatcggatt gctttatata taatctatat acctcttctc cgggtccaaa 5760

ttccatcatt catacaaaca tggaaccatc attaaattca gaaccagcca aatcatccat 5820
```

11710

atctggtacc tggcaagcct tatatgaatt ataacttcct agctactagt attgagaacc 5880

agggaatcaa gtttaatata gaaatattca agtacttgca agaagatgtc caagactagg 5940

gtgagttcct aactagactt gttaaaccca acccacgaaa cccgccccaa cccgccccga 6000

cccgccaaga aatgggttgg gttaggcctt ctaattatct attgggtttt ggatattttt 6060

ggctgcccca aagcccggcg gagcaatccg ctgggttgcc aagatatctg aataggtata 6120

ttactgtatt tagattatat tttcttactt agatagttat aatacagtat ttaaatacag 6180

tattttatta actatgtaga tcactgctta ttagagtaat gatatgcata actgggttat 6240

tttgggttat ttaggttggg ttagaattat ctgccaaacc catgggcgat ttactgtgaa 6300

ggtaacccac cccaaaaccc gcgtgggcgg atcagctagg cctgaaaacc cgccccaacc 6360

cgtggtttaa caagtctaca ccaagccctc taaaagctac ccatgtcttc attactccgc 6420

ccaagggaca atttagctat tatagtggga aagcagagga atactgacag tcttctatta 6480

cttatataag gagtctctag acaggcaagg ctatatagat gcctctgtac ttctatttat 6540

tgaagcagaa gcagatagat agtataccac agacattatc ctgccacctg ttaagtataa 6600

tcaaccctta tacttaatct ttattaatct aatctctaac cttatctaga gagtatatgt 6660

gcctatattt atcctgcagc agttcaattg tacaagtact ttatagaagt ataccttcta 6720

aaagagctaa gtttgtatga gccccaggag tcagatactt tttaacttgc cttccaagta 6780

cagggaataa acctagtcta tcttcctgac ttgtacaaca ggccacagtc aaccaacaat 6840

atcctatagt actttgaagg gaaaaatagc aagggaatct ttgttattat taccagaact 6900

gtctctgaac cctctgctgc acctgataca gaactaaagg caaaacagat aaaaagaaca 6960

accaagtatt aatcttctgt acaagtatct aaggttaaac aggagcctga ggtcaagcaa 7020

gaacctgagg tgaagcagga gcttaaacag gatataactg tataagataa taatcttgaa 7080

gttgttcctg ggcctgctat atggaagaaa tacttatttt taattgcatt aaaggagaag 7140

gagccagaga g 7151

<210> 5745
<211> 5478
<212> DNA
<213> Aspergillus nidulans

<400> 5745

11711

```
ggccaaaaaa aaaacacttc gcttaaacaa aagggaaagg cgtttgaaaa aagtagccac   60

aaaattcccc gcaataaagt cacgaaggcc gtccaaacac agcaggggag gtacccaatc  120

gtcgaggttc accacaaaat ggtcttcctc aaagcgcgcc cagggagttt tgggcccatg  180

aggggcccct ggtttgaccg ggcagaaaac ggtccctcat ggagacggca ccattatctc  240

gtagcgcatc caaaaaatat ctgccggaac cgcacaatcg cgcacataaa gctaagtgta  300

ccactgggca cacaagcagg tcagcaattg gctctagccg gcttgggaga gcgggaatca  360

gggcggattc aggtctataa cctgacattc gagactgacc tgggctggga cacgatggaa  420

ccgatcgcat acctggcatc tctatcgacg cttatgggag gttatctttg gttcctctac  480

cacaaccgcg aaatttcgta tcgttcagcg ctggatttta cgatcaatgc gcgtcagaaa  540

aagctgtatc agctaaaagg ggtggatcta caactctggg agaatctgat ttatgagggg  600

aatgcgctgc ggcgggaaat caagaccatt tccgcagact atgacacaga atgggatgag  660

aagctggacg agcgggatga gcgtgtcgtc gaggctctga agaaagagag agaccaccag  720

aggcgcaagg gtgaagatcc agacaaggag ggacgggacc ttgataaatg atactgctgt  780

ctatctttac tctttgtttc cctttgtgtt ttggatgcct agatggtata tagcacctgt  840

acatatgtct actttgcgtt gaagccataa tacatggctg gttagcgaat attgatactc  900

acactgcttc cttataagga agacagctat caatgtgttt gctgagggct gcattttgcc  960

ttcttatctc actcttcacc attctctgca tccctatccc cctacccatc tgctttatct 1020

tcatcgcgct tccctactcc acattatggt ttccggttac ccacctcttc atagagcgta 1080

ttcatagagg ggacctgaac acttccttct cggaaacaga gatgagtgtt tgtccatgca 1140

gtcagatatc cagcagtaag cacgtagttg tatgaataat ctcagaagaa cagaagacga 1200

gaagtgactt tgcgctccat accgtggaaa cgcaacccaa ttgtaaaccg actagatctg 1260

cagcgatact ggaagcccat agacgggcaa tccttggccc agaaataatc cactagagct 1320

gataagctct agagccagct tcgacattca gaacccagtc tgcagcaatc cccattggga 1380

agtgcttccc atgtccataa tgcgaattaa aagtcgcgcg cataggttcg acatgcccta 1440

acccgtcctt ttgaattctg aggagctgtt gacctgcggc aagatctgag attcaacgga 1500

ggtctataga cttgtcctgc taagtcagat actggccaag gtctattgtt aaccctagct 1560

ctacatctac caagagccta gagaagacct gatagtgatc gcggttgaca gaaatgtcag 1620
```

```
cccaagggaa gacggagaag ccatgcatgc taccttttaa tagtgcgtcc ttgctggatt 1680

ctacaaattg gatcacggca gctcaggttg tatttccgct ccttgtacaa ctaggctgag 1740

caacttatcg actctcagcg tacgaagcta gggttcaaga gcttggataa taggactacg 1800

ttgtgtagat attgatgttg acaccagtgc cgacatcggg ccgtgtctgc acgcctcatg 1860

tattggaaat tcctgaagtt taacggcttc aatgcgtttc gatatccata tgcatatgct 1920

tttggcgcaa atcggctacg gcttccccaa tgctgggaag tcccagctca tgaaacggct 1980

aagtgacccc taagcatctc tgccctacag taatttccat tttttgtagg atgactttac 2040

gcacaaccgg ccgtcagcga cgtaagatag tttgctgaat ttgttttcaa gactactgac 2100

gctgaataca cttctactcc acacatattg aagcatcgtc aatccattct cttttgacgt 2160

ttctttctgg gaggctggga aaatcctata taaggatatt aaaacaaatc gataaccatc 2220

gctgcctgcg ctatgctatg ccctaagcca aatacacttt caatctcaat tttagttcag 2280

agtcattttc atgccaacct caaccctttc aaacgtaact ccagtacagt ccagtcaacc 2340

aactctcacc cattcctcac aggatcatag tactccttct tcacctgccc ctgacccgtg 2400

tcagacgccc ttgcctgccc gccggcctga ctctgatttc cactctgccc gcctgaatta 2460

tcctcacctc ttcttctatt tcgattattc ctgacgtccc gacttcgaaa cacactgtat 2520

agcagccacc cagccaccca attcggtccg tactcgccgc tcgtctcacc tgaggcaaac 2580

agcgccttcg tgcgtggtgt cgcattgcgc gcaatctccc gtatggccca ttgctggcgc 2640

tcaggtttaa tgtggtgcca gaagtaaggt ggcttcggct tgtcagatgt attggtcaga 2700

gtgtcgagga gattggaggg ggaagtgttg agaaggttgt atattaatat tgtttcgtcc 2760

tggtaaaaga ggttagttaa ctgaattgct accaaaggaa agagtaggta gagacgtact 2820

cgcattgccc gatagtattg ctcgtgctga ggatcgtggg aattaaggcc gagagcggcc 2880

ataaactcct ctttggatgc gcgtggccct actgggggca ttttcgttgt ttcaaggttg 2940

actgtaagga agatggatgt tgatatggtt tggctgttct cgcagctatc tggtaggtgt 3000

ggttgaggca gctctggaag acaacagcag cagcatggca agtttaagga agccaaactt 3060

aaatacctac acgaccgatc aaagaaagga acacacaacc gtggcccagt caaagacatg 3120

cgccgggatg ctgcttactt cccaatgggg caactaaacg tcgcacaaac ggcctcgatg 3180

cgcaggagga aaggatggaa acaaaaaagt ggctccatag gtggactgat ctccctcttc 3240
```

11713

```
cttgccaata gtaagttacc cagggcttgt tcatccccat cgatcgatgg gatcggggat 3300

gcggtttggc aggcaatcgc aatggcaatg gtaacgacga tcatcaatca gccaatcgcgc 3360

aacccagcag ttgctggtca aggatgcttc gattcgcttt gcttcgagga cgggagagag 3420

ccgtcactga gttcgttgcg tttgtgactg ggatgcatgc atgcagcgcc gttgttgtcc 3480

ttccctgccc tgcccggcga cgatcgtaga cacgacaacc aggcaccgtg caagctgcgg 3540

gtctgattag ggctgcttgg atagaagcag ccttcgaccc tacccagtgc ggtccaagga 3600

ggtaagacta ggtactgaat tcagcacttc agccagtggc ccttcttccc atcgtctcat 3660

cctgtcgcta tccgagacga aaagaagat gggcctgacc ctgatcaacg tggaagagaa 3720

cacaacataa cgcacgcacg cccctctgga tacacacatc catatctcgc cattaccact 3780

gaaaaaaagg cgctgtaaat atcaagccga tggagaagat aattgtagcg agctgcgact 3840

cgggagttcc ctgtcgatcg cctcccgctt gagcgtctgc tgtgcgacat ccaaccctca 3900

acatcccgca cagacggagc gactgagtgc agacgaaacg cagtctctgt tctgcgccgt 3960

cggcgttgtg ctgctcggca aacaccgtgg ctcgattcgg aatattcgtg tctggacctg 4020

gatctgcgtg taatcaatca acatggggaa agcgaagaag agaatgcaga gctcgtgtgg 4080

ccagatcgga cgacgacaag agaacctaat attctgacga ggcgaggcat ccaattggag 4140

cccagactat tctacgtaag cgagggaggt ggccatggtg ggaaagaacg gggtgaagcg 4200

ggtgtgaaag gaggttgtac agacggagtt gtctcacagg atgtccacca gcaaaaacac 4260

cgcattaccg tcatctgcac tggtgcgttt tgcccataaa tagatagaga ccagtctcaa 4320

caactactga ttgtatcggc ttcgcttacc agcctgccac aaggcagtgt gcatgagata 4380

tatcatcgtt cataaagcac aggcctaaca tctaccacaa acatcatggc aacgccttgg 4440

gttcatataa tactctaacg gagcgaaaca ctcgaacgca ctgtcccgtg cctggacagc 4500

tggagtgtag gtcctccaag tcgaattttg tcgtaccttg tgtgaaagaa tatcgatttc 4560

attgatcagg ttgaaatgga gtacgcgagc gttgtgtatg ggaagaggga gggcgtggcg 4620

tggcgctgtc cactgccacc cctctcgtgg tatatccagt taacaagaca gtagtaacgg 4680

cttccttcta cctcgtccat ccaaatcctc caaaaaaggt atcttatgct ttggcgtctt 4740

ttttggattc ttcaggggac gagggtgtct cctcatcacg atagtattcc cgccggaaga 4800

aattctctac ctctttgtaa tccttcttag cagtcgccag cgttttttca atcttctcca 4860
```

11714

```
gtgacacctt ctcatctggc tcgtcgttgg ttcccgattc atcctttcct gctccgtagt 4920

gctggatttt ctcgcaggca tccttgacct tggtgagccc gatagtagcc gacgagcctt 4980

tcaaaaagtg gcccagcgac gagagctcgc tgagcttctt gtcttcgctg cagttgtcat 5040

cagtatgggc tccattaagc cagacgcaag ggcactcaca gggctttctc cattttatca 5100

aaggtggact cggcctggtc aaagaagccg tacacgatac cctgactgaa ttcgtgctcg 5160

tcctcgtcat ccatctcaag gatctgttcg aatgtggctt ggtcgatgct gtctgccatg 5220

tccgccaggg ttctcggctt ggactgtccc aatatcagtc aaaggtcaaa gattcaaaca 5280

ccagaaaaca cgcacctgca ccggctgctc ttccttgacc gtcttggtgg ttgtagttga 5340

cgccatggtt atgatgaatg atattatgcg gactctcaag ctatgctgac tggctgatga 5400

tagacggttg tccaagaagt tacccaacgg gcacgaatac tgagattact ttgagggtct 5460

gctggttcaa atgcatgt                                           5478


<210>      5746
<211>      4389
<212>      DNA
<213>      Aspergillus nidulans

<223>      unsure at all n locations
<400>      5746

ttaagctaag agcgggattt acgaccttgc tggcaacaaa ccctcgaagg taggaagagc   60

gctggtgacg gcattctgcg ttaattgact gattatgcaa catttatcat tcattgtcgc  120

ccagtaggtg tcccgggtaa agcatcataa agctcatatt aagggaaccc tcgtgcgctg  180

tgctcagtgg ccagtgaaat cattcatcag ctatgctgcg ccgctatcgc ttcgagagct  240

aagtctcatg attaagtcca tgacttgcga aggataaggg tgtatcatga gagacgacac  300

aatggatggt acagtctttt gccatctgta cgtggtcagg ttagtagtct cgccacattg  360

agggaagaga atgtgaagtg gctatgcagc cataaacgat gacctggaga gttaataact  420

ctctagcata catgttattg cattgtgccc atattcaaat ccaccccggg ggaccgtaat  480

ctcggtcaat ggctggctta ccgttactcc catcttccgc tgcattggtg atgtctaatg  540

ggccaaaagt ggagagaaag aatgtccttt tgggaacata agcttatagc cgatagtaaa  600

agagcattca tcggcaagaa ttagataaat cagagcctat aaatagaaat agagccctca  660

caagcggcag agctcggaaa cagcctctgt cagatcgaag cgagaccagg aaaagatgta  720
```

```
agaccgatgt atgtagacca ggccctcaat ccgtcaaaaa ggatataatc ggagcgctac  780

aggcgtccgc gaaacggggn ggacgtgccg gggaagtcac aaaattacgc agccgcgaaa  840

acttgaaagc tatgcttttg gaaaatgggt agagtctgag ataggatcat tcctgtaaga  900

tattgttggt atttgactat ggcacctatt ggcctttttg atattgagtg atggtcaatt  960

ccatctgcga tggtgcttat atttgttgtt attgttgaag caaataaaca tgacaaccac 1020

caatcagctc gcatagctca gttggtagag cgcgtgacta gtaatcacga ggtcagcggt 1080

tcaagtccgc ttgtgagcat accttttctc aatcggttct tttcttttat gccgattgct 1140

caatttttac aattttgttc cggctcgcga agcattaata tcttaactta gatttagtgc 1200

atggagctga aaaagggcaa aagatgctca gcggactcag gctgctgact cctccccacg 1260

aatgtaaatg gtcattcctc gtgtgggcat actaaaatgg cagatgtgcc cgcagaactc 1320

ttgaagttct gggcttaagg gtgtaatact aaggatacat gccaggatgg atgtacctat 1380

tggtactcct ctgcttagcc tttaccgaaa acaagtgaga ctagtttagt aacccggcgc 1440

tcggctcaaa gatatatatt taacattagc ttcaaatacg caagcggcgt aacaaactaa 1500

ggtagatatt ttagagttcg aggactcgtc aagccatcag tttactagta tatgagaatc 1560

attcatcagg tccggccctg tcgttagggt gcgccagagt cgccgcggta aacgagtaac 1620

tagtccggcg gtggtcaaca cccgcattgg tactgtcaat gctagtctcg agctctgagg 1680

gacccttctc gactgttagt ataataccag atactggata agcactctat tattgctaag 1740

acctccggta aagaatcatg aaagaagcaa gcaaacagga ggattccgaa tcaggcgaaa 1800

cgaccaacct tgctaaaatc atcccccaca ttagcaccag agctgccggt cccaacggca 1860

ggaccacgtg aagcgggagc agtgccggcc tgcgcctcat tctgcgcatc ggcttgagcc 1920

tgagctagat tctgaccgta ggtctgggtc tcggattgac ccataccggt cgtatcatcc 1980

tggccctggc ccattttact tcgggtatag tcgacgtttg cgttgaattg gtcggtgaaa 2040

ctgctgttgc cggtgcggcc agtattgagg tttggatttc ggttcattat tcgcgttgag 2100

taggctggac ggataggtcg caatagatat tccaagatgt agtggtgaga cactgaaatt 2160

ggatgtgaaa attgggagag aatgaggctc ctcttatatt aaggtggtat gacggaatga 2220

ggtcatgact atgcggggag ggcacgttcg tggaagagtc gacgaaccgt ggtcgaatca 2280

gacccgaatg ttcatggagc tgtcctagtg tcaactggcc atctaggaca agtaatcctt 2340
```

cctgtttatg ggctattggt tgctggactg aggggacttg ttccgtactg atatccccgc 2400

atcagtggaa gattctgtgc aggatgaagt catagagtat ggatggtttt gctgcgattg 2460

gatatggcgg tagtgtgctc taaatagtgg cgaatttggg caattaactg gagagtgctg 2520

accatttttt ctttcattca tagatagccg tcctgctcta agttgaaata caaacttgca 2580

gtgaacgtgt ttacgtaaat atgtacgcgg acgacctaca tatgtcctga ctgcatctac 2640

tcttatgctg tccgccaagt aatgttccct tactctataa gcccagccgt gctcgtccat 2700

actgcaccca ttcgtcgtcg agctgcagac ctaagacagc ggcatgggcg ccgtaatatc 2760

gaagtcgata ttctctttcg ccgactcgat ccgatcgtga caggtaccaa ataagcggtc 2820

ccacaggcgt gtctgtttgc catagttgta gctctttctg tagcccttgc gatggtgcaa 2880

gtcatggtcc tcaatgacaa tgtccgcctt aaagaagtct agcaaccatc ctagagtaga 2940

aggggccgtc ccatgtatgc gaaggccact gtgtcccaag acctcagtga aggcgatgta 3000

ttcatggcag atccaccatt cataaaaccc cattggcaac ccaaacgcct ttagagtcat 3060

gtaggtgaaa aagggaaccc caaccatgtc aaagaactcc tgctcatggt ccgcgtaggc 3120

cgaaagcagg ggattggggt gtttggtcag atggtgggta cgatgaaact tccaaagaaa 3180

gtccacatcg tgcatcgccc tgtgatacca gtagaaccaa aagtcaagaa caatgccata 3240

aagaccaatc tcgagaggga gccatgccca gttcatttgc gcgggcagac agtcggcgct 3300

gtaggaaaag tagatcgaca tggctagacg cgagccagtg gttttgtaga gagactggac 3360

aacctttgca atgcccacat cgggaatacc gtcacgctcg tgcttgtcgc catccagaaa 3420

gccccacttg tggcccagtc tgcggagaat atgcacttca tagatgataa tcgcattgaa 3480

agcgaagaga tagaaattga aggcggcgaa aggaccgagg gtgtaaccag tataagatga 3540

aaagacctga tgtatgagga gaggaaccgc cgaatagatg agcacaaagc ggtgtagaga 3600

ccactgaggt acgtagggta tcttatcgtc ctttgagtgc accggcacct cgcgatcacg 3660

gtcgacgtgg tagacattta ggaagtcgat gatatggtga tagaagttcc attcatcccg 3720

gttgccatca cgccatgtgg atttcatgga gtctttggga ttcactgtag ccatggcgtg 3780

gagaattgct ctgttggtat ctgatgttta ctccccgtga ggaggggatc tagtaatcct 3840

tatatccata gtggtttagt ggatatctga cgctcggaga cgcgatctgg tcgtagcaag 3900

catgtgatgg aaacttcagt cttgacgatc taacctgtga tctatcttgc gtttgcagat 3960

11717

```
ctcttgtccc aacaaatcca gacgcccagt ccatcagggt ccattagaca tcagttgaat 4020

ggcccttacc gtatcgggta tctaccgcga ttaagtaata actcccccac atgaaaacgg 4080

ttgctcgctg gatgagcccc gcaaataatg aataatgcgt cgggagcgtg gattagctcg 4140

caagaatgtc atttttggga tagcaggctc ggctgttgga aaagtaaatg atcggtcttg 4200

gtctcgttaa gccgtctgag ttgcatcagg tgtaatcgcc aatatcgctg tatgtgaacg 4260

gtaatgaaaa tgctagagcg ttcaactatt tgcgaaaatc tagagctgga ccaaaggtca 4320

tgtctgagct gagagacacg gaagcctgag aaatattcaa gaccgcggcg tagcactacc 4380

atggagcca                                                   4389


<210>      5747
<211>      5922
<212>      DNA
<213>      Aspergillus nidulans

<223>      unsure at all n locations
<400>      5747

ccggtgacga tgccgaactt tccttccaat gggcgagact tatgaatgat tctcaaatgt    60

gaacacttga gggctgttga gtacataaat agagggagaa ggcggttaaa taattctggt   120

tgttacttca tggtatgtcc cactgctatc tctagtcccc accatcggga atttacccgt   180

ttgagacccc ccgggcgatc gaatcagggc tatatgttcg gggttacggt taaatagttt   240

caatcaagct tttcttgctc acatgaacct tacaatttac agtttactca ctagggactt   300

aaaactacgc ccgaggaata acgtcaaagt tcagtgcatg ttcattatat tgtatgtata   360

atatatgtgg gaccccatct accgtagaaa gtatggcact gttgaatgca aaactccact   420

agaccggccg ttgaacccaa aacactaccc agaaaccccg tgtatgccac ttttatgccg   480

ttgaaggaca atgcttttga gctccatgtt gatgaagaac cccatatgtt agtcgtaaca   540

tcgtgatcat gttgaaaaaa gtctactcag ggtatcggaa aattaaagaa aaaacttagt   600

agcggtagtg gtcagccttg taagggccct tagcatccag gccaaggtac tcagcctgga   660

caggagtgag agtagagagc ttggcgttga cgtgggagag gtggaggtag gcaacctgct   720

cgtcgagaat cttgggcagg acgtagacgc caacgggctt cttgccggag gtaccgaact   780

cggggtactt ctggccgaag tccttgtcct cggccttgaa cagagcaatc tgagcaagga   840
```

11718

```
cctggttgga gaaagagcag gacatgacga aggaagagtg gccggtagca cagccaaggt  900

tgacaagacg accctcagcg aggaggataa tgtgacggcc gttgggcatc aggtagcggt  960

cgacttgggg cttgatgttc tgaacggact tggcgttggc cttgagccaa gcaacatcga  1020

tctcaatgtc gaagtggccg atgtctaaac gtttagctac atctttatca gtgtggttga  1080

agggtgctta ctgcaaacaa tggcatcgtt gcgcatgacc tcgaagtgct tgccaaccag  1140

aatgtcacgg caaccggtgg tggtgacgaa gatctgaccg agaggagcag cctcctccat  1200

ggtgacgacc tcgtagccct ggacagcggc ctggagggcg ttgatggggt cgatctcagt  1260

aacgaggacg cgagcaccca tggtgtgcag ggcctgggca caacccttac cgacgtcacc  1320

gaaaccggca acgacagcga ccttaccggc aatcatgaca tcggtagcac gcttaatacc  1380

gtcgataaga gactcacggc agccgtacag gttgtcgaac ttggacttgg taacggagtc  1440

gttgacgttg atggcgggaa cgaggagctt gccctccttg agcatgcggt agaggtggtg  1500

gacaccggta gtggtctcct cagaaagacc gtagcagccc tggagctgtt cggggtactt  1560

ggtgtggaca agggaggtca ggtcaccacc gtcgtcgaga atgaggttga gcttctggcc  1620

atccttgaag gcggagagct gctgctccaa gcaccagttg tactcttcct cggtctcacc  1680

cttccaggcg aagctgctca tattagctta gttgaccaat aagattgaga atcgacatac  1740

acagggacac cggcggcagc gatggcagca gcggcgtggt cctgggtgga gaagatgttg  1800

caggaagtcc aggtgacctc agcaccgaga gcagtgagag tctcaatgag gacggcagtc  1860

tgaatggctg gggaaaggtc agttcgttcc acaatcattc cggtatgcgg aacgtactca  1920

tgtgaagaca accggcaatg cgggcaccct tcagaggctg ggcgggaccg tacttggcac  1980

ggatagccat gagaccgggc atctcaattt cagcgagctc aatctcacgg cgccgaaggc  2040

ggccagagac tattcaagtt agacgtgata ttccccttca caagctggg ttgaaagacg  2100

tacgatgtcg cgaccttga atttctgagc gggggcagcc atggctatta tggtgaggat  2160

gaaaggagg agaaaaaact gaagtatctg ttagcaatta ctgctccgaa tgagagtgca  2220

gtggataaac tcacataaag ggatgggaga ggatgagagg aggatgggga gagaatctga  2280

gaggaagaga aaagggagaa gaaaaggatt aggaagaaga ggggcagcgg tcggagttc  2340

agttgttacg gcggggctgg ccaaatgggg cggtcaagtc ttactcagcc cctaaccatt  2400

tctacagtta agtcaatatt attccctttt cggtgggtta tcgagaagag tagatggtat  2460
```

11719

```
tgagtaccgt tctatcttgc ttgaaaaaga gtagagagtt ttttaggttg tgttggacag 2520

attgttattc tctatgaagt aagacatagt agacaagtag gtgggtttac cgttgtcact 2580

actggggcag tatagatctc tacaaaactt tacgctacgt aggcgaacca aagcaggcca 2640

tctcactccg aaagggactg ctaacagtta ctagagcatc gtactggaac taacaccccg 2700

gcaaatggat ggagttacgg ccaagatact ccggtacagc catattcggg gcattccaat 2760

actgctaaat tcagccccac atttgtcctg tcagcactca gcatgcagag accagagcca 2820

tagcgggcag cctctgtgag ccacggctag ctgagggaca acgacacaga ggactgtatg 2880

gagccggaca tactggactg aaggcaagcg agtcagccca atctgatgtg caagccgcat 2940

tattgccact gtagctgagc tacctacctg cattgaaggc acggagtttg caacagaata 3000

atgcatgtca gacggactcg aataatatcg ccggacttgt tccataatgg cgctaaatca 3060

aaatgtcttc aacactacgt tagtacttac agcaggtaag gaaggtcaga caaacttctc 3120

aattttcatc atggtcgccg agttcttgg atacaatctg aggttcgacg gtttgtcctc 3180

cagagtataa gacaaaggaa tcgccaataa gatgactcat attaatcaca atgcaagcct 3240

gacattctgc agtaagcctg gcttatgtcc tacaagctga ctatgtagtc cttcacttag 3300

acaccgtccc caaaccgata cggattcatc catctctgta aaaatttaga accaaggcat 3360

ttgcagcgaa gtctattcga cataccttat cataaggctt cgatgagtca cagaagcgca 3420

gatccgtagc taagcggata acaccctcgg ggtctttatt gatggtcgat gcatggatct 3480

agattcatca gtcattagag tcaagtacaa tgagaacatt gcacaaagca tactgcatga 3540

ggcttgtgca agacaacatc tccggcttca taggcagaga ccagccagcg ccggttatgc 3600

tgctttgcga actcaactgg gaattcggat agcaagcccg tcgccatcat attcgaattg 3660

aatgccgagc gggcttcctc ctgtgtcaag ccggcattta tggcttttgt tgtgaactct 3720

tcttcgatca tgagaccgac ggggtcacct agaacctact atcagcatac catccttcga 3780

gaatcaggat atcggggcat accgtcttcg agatagatca gtccaccgcc attcaacttc 3840

acgtccccaa tgggcaccca agctgtcacg ctcgtaggtt ccccatgcct caaaaaaatc 3900

tgatcataat ggacaccaat gggctttgtc ccaggcgtgt tattcctcaa gagtgtgcgc 3960

tggaacgtca acgtattctt tccccaccca ctgaacctcg ccacaaagtc atacagcacc 4020

ggatgatgac acagcttctc aacataccag tccttgtagt gcgcctctac agccctgtcc 4080
```

11720

```
acgaactcat cagcgtccgn cccttccggc cgcccgttcc cgccaacagc acctgcgccg 4140

atccctgggt agtgctcggg gttcttggtt gggttgaaga taccttccac agggtcggtg 4200

ccttccttga ggacgccggt tggggataag taggagaagt actggcggcg agtctcgagg 4260

acgtcgtcac ggggggagcag acccttgagg aaaagatatc catctgcttc gtagcgtgct 4320

cgaagctctt caatggggag actggggtct gaggggcgaa ggagggcagc gttttcggag 4380

gtaagagggc cgtcgttgac ggcgagggtt tccgttagga cacctggcat ggtgagttcg 4440

attttatcca aagcaaaacg agatagataa cccaccctgt agttgagcgg tttggctggt 4500

tatatcgttg tgtatgtcta cgggtatagc tacttcttgc atctaagcta ccccgcctac 4560

tccaacccca agctctgcgc tggacccatt ggattgactc cgttattgtg ggtgaaacgc 4620

aaagcgcgcc cactgtgagt ggcggagtat tcaaccttct tcgtgaaaag cttccaattg 4680

aagaacgggt gcggagaatg atgcccatca aggtcatggc ctaaatatca taccctattt 4740

aggaaattcc aaccatgcaa gtttaataga ctattaccga agataatata tatacagctc 4800

aatatgcatg ccagtccaca attcatcaat gatgcgaaac gccttactcc cgtaacccca 4860

cgccatcatc caatccatca atgcttccac tctcgaaact cccattcccc agctttttca 4920

cccacaacaa gctccaatgt tgtaaactca atcttctcat acatctccct cgcagctgca 4980

cgcgcctgcg catgccaggg gccagtaccg cctgctcttg cgtcttctcg atttctccat 5040

aaacctagcg aaagatcgtc agcaaaactc actctaccga aaaaagcaca gaaaaaggag 5100

acgtgaaagc atacaagtag caagattctc cctcctccca ttcttgaccc caaaccaata 5160

cttcagaagc ccgccactac tcacagcttc cgcatgggat cgctcatcca gcaaaagtag 5220

gcgatcccca tctgcattcg cttgaagtac ggaccggaac acgacgacat agaaactctg 5280

ccgcgacaac gaatagccct cttttgcagc gaggctgtaa aatttcagaa aaacgaagtc 5340

ccaattgaag gattccgtgt atggcgctgt ggcgtagtcc gggcgcactg gggtgagcgt 5400

tgttagggct tgcgcgagga ggcggttctg tgtgtcgaga gttgaaaggt ccaggaggtg 5460

ctcgcgggtt atgtaggggg aatctatgag gagattccct ttggctttgc tggttcgctt 5520

ctaaggggtg agaccgggcg gactggactt gacgtgaaac ctgtaggccc tacggttgtg 5580

gcatagccgg ggtttgtata gaataactag cttgggcggg tggccccatt ttggcctagg 5640

agttgcgtac aagcgcggat ttaacggttt aatattctaa taacctttca atgacgaaga 5700
```

11721

```
taggttaaac gcccttacc tatgccccca agaagagcct atttgccacc tacaaaaaaa 5760

ccttcccc ctggtcacct ttaccaaagg tccacccgac aatctggatg tcttttatg 5820

gcctctattt atttctcata ttttctttta ttgaataatt atattaatac ttttcatcaa 5880

acattaacgt tattatatta tctctattat attccttctc at            5922
```

<210>   5748
<211>   3305
<212>   DNA
<213>   Aspergillus nidulans

<400>   5748

```
ccaggcgtgc atattggaca ttgagttgta aatgctcctt tctagtttgg gtattcacac    60

tcgaaaacta gagggcgtgt ggtttaaagc tcttaatcct cctaggtgcc tgcgtagttc   120

gctaatggct gctattagca tcggggccct ctctacaaca gggacgaaac agggtttcca   180

tcgcaaaagt attcactacg atgagctaag aagatgctaa tactcactct tagtagcatg   240

ctcaataaca tccgtcaaag tatattttga agaatttggc gatgtactga gtccatatgt   300

aaagcgatcc tatcgaactt cccactcggc caaaaagggc taacccccctc tggagagtta   360

ggtaatgact aatatactgg ttgtcaggtc cctacggcgg cagggaagca cgtgatgaca   420

agcgctatga ctaaatcaat gccaccacac ggcgctgacg acacacaacc ctgacgaaac   480

aagcaaaaac cacgacgagg ggagaacagg gcccctact gctctaataa ctgatctctt   540

acgctttgct catcgatcat tccctccacc ccatggaggt ggatgactcc cccccaggcg   600

gagcccgtcc ggggactccg ctcctgggtg aaaactctga accccctca ggacctacca   660

ccccgacccc cctaccccgg aactccctga agagaagggc cttattctcc ccacagaaga   720

ctcccactgc agctccggtc cctgtatccc attttccgca agccccatcg atctgcgagc   780

aggtcagcat ggtagcagat gaccagctag tccttcttaa tgattggaaa ctagcaatga   840

cctctcttgc caaagctcta gatctaactg tctcctctct acagggccgc ccaagagacc   900

tggcccgggg gcttgcagcc agatttgttt ccctagcaaa acaggactcc cctcagcaga   960

ttcctctgat aacagcagtt gcaccccccac agccatccag gcagatggaa cagccaaacc  1020

aacctcccac tcctgaagct tgcgaaggcc ccctgaagag gcaaacctcg cagcctacaa  1080

cctgggcatc cctgacagcc ccaagagctg gtcaggggaa ctggcaaact attgccccag  1140
```

11722

```
aacaccgcac gcaagccaag caaccagcac aacgaaagct gaagcagcca aacaagacta 1200

accaccacat cttcctccgc ctcctggcct cctctagcct ccgggctatt ggaccacatg 1260

gcatctgggt caccottgca gggaaagttc cggacaggat tgcacaggtg caagtgatat 1320

caacaggata cacaatcact acaactgaac aaggcaaggt cttcttacta tcagagaagg 1380

ctgcaagcct agctggggat ggatactttg aaataccaac agagtattac caggttattg 1440

tcccccggat cccgaaacaa ctctggttcc tggatggatg gatagatact ataattacag 1500

atatcagcaa tgaagcagag tgcattactg gtattaaact actcatggcc aaactctcaa 1560

agcacccagt agagagggac tctatcacag cagtcatagc ctttccaaaa aggctacaac 1620

acccctтgca actctttggc ctgtccggcc tatcaaggcc cacccgcccc aagcaaaggc 1680

ctttgcaatg cacccgatgc caccgcttct atgatacacg agcctgccgc tccagcgaac 1740

gctgtatctc ctgcggatcc tcaaaacagg aacataactg ccgtgtgcag tgtattaact 1800

gctgcggccc gcatgcagca gacttccaaa aatacccagc cagaccccac atccagagga 1860

acactgtcac ccgcctctca aaagatgctc tagctgctat ctgcaaggca ggctggcttg 1920

ccttctaaca ggagcagaag aaagcagaag aaagctctaa acaacaaaca gataatacccc 1980

atactataaa ccagcctaca agacagctca cccaggagct cttaaactaa accctgacct 2040

cccctgaact atgaaaatac tacaagctaa tgtaggaagg gggggcgctg tacatgacct 2100

gctactctcc tttgaagcag atattattct tatccaagaa ccttggacaa atacagcaaa 2160

gcacctaacc aagacccacc cacgatatca gctgttcagt cccctgaccc gatggactgc 2220

cagacccagg actctaacat atgtacaaag ggatctccca gcccattccc tcctggaacc 2280

aatctcacca gacatcacca caatctacac ggcaggcctt actatcatca atgtctaccg 2340

cccccctaat gacccagttg cccctgctgg tgctggctca acaccctcta cactttccac 2400

actcctagga tatgcacccc cagagaacac catcctagca ggagacttca atacccggca 2460

cccattctgg cagccagata ctgagtctta tgctgtcaca cctggcacaa caggattatt 2520

agactggctt gatgcccatg agctggaact tcgcctcgag ccaggcaccc ccacccatgg 2580

accaaacacc ctagaccttg tcttctctaa cctactacta agggccctag tagaagacca 2640

tctaaagact ccaagtgacc atgcaacaat tggaataata ctggaacaag aagagccccc 2700

gcctatatac aagcttagat ctaccaactg ggagaaagcc agagccctgg caagcccgcc 2760
```

11723

```
tgacccaacc ctaccaattg acctactagc caaacaactg gtccagacat cccagcttgt 2820

aatacaaggc gcatcaagat acaatactcg cagactcccc aggaccccat ggtggactcc 2880

agaactaaca gacatactac accaaacaag acagcaacaa aaccccgact ataaacagct 2940

ccggaaggct attatacagg caaaggctga atactggaag cagtgaattg aacaagccat 3000

agcacctata gatgcattca aacttgctaa atagatacaa catccagacc agcttgctgc 3060

tcctcccctg aatatacaaa gggcacaggt tactactcca cagggcaagg cagacgcctt 3120

ccttaactac ttcttagaga aggggggccct gcttccaaat cagacagaag agggaccccc 3180

aaacaagccc ctgggctcac tacacctgcc aacaaaagag cactgctggg ctgctctctg 3240

tgccccactc ctgtctgccc ccgggggagga tggacttgtc accactgctt ggagggagct 3300

ctggc                                                           3305


<210>      5749
<211>      11367
<212>      DNA
<213>      Aspergillus nidulans

<400>      5749

tcgctggtgc cttggcacga gcattgagtg ctgtggagag cagactaaca ggttgcaccg    60

tactgatcgg tcgaggaggt ggtaaatcct gcagttctgg cgccggtggt tttggtttcc   120

ggggcgatgc tgtctgcgag ctcggtccat ggggcagctt gtgcatcaac gcaatcggtg   180

acgacgagtt tagacctcca gttataccaa cagctcctag aagtgacgca gagccagctg   240

tcgcatcaaa ttctgatgag agagcacttt cgactgaccc cgcgtccgag tcttcctcct   300

gttcgtccag ctgctcgagt ccgtcactgc tggcttttcc tagatctatc acttggtcat   360

gaccggagaa gtgaatctgg cgcctcctgt atcccggcgc ggacatatca atctcatgat   420

ccgaagacat gtcactactg gttgtagtgg ttgtcgtgtc cgccgtggg cgttcactga    480

cgcttggggc ggtcccaaga gagcccgtgc gataatggct attcatcgat gtatgcgaag   540

gatgtgtgac cataacctga ggtctttcct gccgatcagt tgccctgatg ggtgacgagc   600

ctgctctgat ccgaacaggc acttttggaa acttgatctc ttcgctagcc ctctgcaggg   660

gttccccatc atcgtcactt tcgtcgctca ggtcactgct gtcatcttct tcgacgtctc   720

ttgccttctg ctgttccctt tgctggcgtt ctttccgatg tgcgcgcttc tcattccgta   780
```

11724

```
aaggattccg gcgcccgatc ccatctattg tagatttccc gtcaccatgc ccccttcgtc    840

atcctcgccg tcttgtccaa atccagatct ctgcgaatca ttcaaatccc tagcgcctaa    900

ctggtaatat tcggacgaga ccgctgtggc cgtaggtata ggaggagaat atgtccgttt    960

tatactggca gcaagttgtg atgggtggtt ggcggaggct gctggccagc ctgcggcgcg   1020

gaatccgggt gtattgagaa cagaatgatt gacattaatg agtctgtcgc caatgccatc   1080

cttgattgtg gagaggtaag aagtgcgtag ctgccaaatt gtaaagctgc acccaattag   1140

catagagaaa ctgaagggga ggggatttaa aacgtactct tcgttatgaa agagagacat   1200

cttccataca cttggtaggg aataagaagt gagacaggaa gatatattgg ctatttcgat   1260

ctaggaaaaa tatgtgcagc tgtttaacag ggctatcgta cgtcctgtgc tctcattgcg   1320

gactgaaggt ggatgcgctg agtgtgccga acgcagagaa cacagccggc aggaccagcc   1380

tgtccgaagc acaggaaaaa gaaagaagag aagttaacag agatgctgct cctggacgcg   1440

ctccagggtg gcgtacggtg taaatgctgc gctgtatagc taaggaaggt tgaaggaggg   1500

gagaggaggc cgcaagcgca actccaccct atctccgccg ccggcagcca gccaagacta   1560

gagcgaagca cgtccttacg agccaggcac caggtccaac agtatttgta tctacgattt   1620

gcctcgtgct acaaaggcag ctcaaagaga aaatcatccc ctattcgttg aatatcacga   1680

tgagccgtga tacatgtaat tatacaacta acatacattc agtccatgtc gcactctcgc   1740

tcaagttgcg gccatgatat cccccaaatc aaatatcaaa aacatgggaa taatagaggc   1800

ctgatattgc caatcaagtt atgacttggc ttttttgcct cgcgctttct ttggcttcgg   1860

cgcatcgtcg tcctcgtcgt cgatgaaatc gtccgcgctt gtcttcttgg attttccttt   1920

gcctttcgct gatgtgctgc tctttgaact tttcttagcg gtagacttct taggcacacg   1980

aataagtttg tccttcttga gatcaatctc gtcgctatct tcgtcatctt tagtgtcgtc   2040

cacaaggacg tcatcctcgt ccgactcgtc gatggcatcc tcaatgtcgg gttttccttt   2100

cggcgccttc ttcggcgcaa gaacattgct agccttcata tatggaagcg ggtgtgagcg   2160

ttggttgtaa acacgcgtga aggcggcttt ggtctgcgtc tccagcttga ctttagactc   2220

atccataggc ccaagtccga gctcgacaag agcatcccag tcatccctgg taagaaaata   2280

actgtccata aaatcaacaa cgtcttcaac actatctttg ccgtctacca tcagccgctt   2340

aacgagtctg tcccataata gtggtatgta ttgctgtcgg acctcgtggc gatctccaga   2400
```

11725

```
ggcgcgaacg cgcatgcgtc cttggatttc cttcacatat ctcgagagtt ttcctgcgtg  2460

tacaacatca gcctcgcgtg caattactcc aaagacgatg atcaaacctt gtttactatt  2520

ttgcccgagc cagctggtga aggcaggccg ctccatcata ttaccaaaca taaaactagc  2580

cggacgcaca aaactgaaaa tagcatgcgt tggcatcaaa ctccattgct gctggctgcc  2640

atgaatcatt ctgtcgacga gatctccatc gcttatgctc gaggcagcat tatctgctaa  2700

ttccagcagc tttaacttac gctctttgcc ctcatagtta ttggcacgtg tcggtttcgt  2760

cctaaggtag ttctcctgga gcataagata gctgaactcg tggtcattga aatacagctc  2820

acttttatcg ttgagcgtag ccgtcgagct ttgactgaac atttgtggat tcaaaatttt  2880

tccaacaatg tcccatggct tcaggatgat atgcttctcc catgctttcg acatctgctt  2940

tccctggtca taatcgagag aataatcctg gccggtttgg tcgccctgct cgctccgatc  3000

caatctgact gctgagagca tattgatcac ctgtcgaata tctgcgtgtg ttccctcgat  3060

cagactatcc aggacttgcg gtggtatttt cattttctct cgaaagcaga tggtcagaag  3120

gcgggctcga acctgctcga cagttggcct tctgaacgga atttcgaatg tgacgtgatc  3180

aaagggcttc atttttggga ggcgtcgctc attgcagatg agaatgagag gaatttgtgt  3240

cttcttcgca atcgcagcca tcgctccgac acctcctcga tctccagcag acataccatc  3300

cacctcgtcc atgattagca caaggttctt tttgccactt tcaacctttt tgtttgaagt  3360

cgagaaatac ccctgcagtg aagtcgtatc caggacacct agaagaccac tctcgacgag  3420

ttttttactc ctggtgtcac tggcattcga ttccacaaca tcgtaacctt caagttttgc  3480

cacaaggtgc gccgcggtag ttttaccaat tccaggaggg ccatgtatca tcacagagcg  3540

atatagccca gatccgtcct tgcccggttt tgtaaagttc gcctttgcgc tttttcgcca  3600

gttcctgagc caagcttgaa gtttctcaac cgctccttta ttgccgcata tcatattcag  3660

agatgtaggt gcatactttg aggtccagag ttggtcatcg gcgttatttt cctttttgtc  3720

cttgacatcc tgagtggttt ggccgctttt gacttctttc cgtctctcag cttcattacg  3780

tttctcttcc gcatcaatct cagcggccat cttccgaatc ttctcatctt cttccttttt  3840

cttcgcttca tacttttcag cagctttccc atcgccgccg tttgcgggaa gacgacgaat  3900

gagttcaaat aggccttctt cgctaattgt tttcagtttg tgtttcgaga ttgtggcaag  3960

ctttgatggc ccagcatcgc ttccgaggac aacaaagctt gtcttaccgc tgggtgctgt  4020
```

11726

```
tgtgacttta ccgccatacc tcttgactaa agcctggccc tcttcgcggc ctagggtgtc   4080

aagaacacct gtgaaaacga acgttagacc tgcaagacaa ttttccgctc caacaggtag   4140

ttcggcgccc ccagaaacag ggtctcgcga tttccctcct ccgaaaacga acttcttctt   4200

ctcgtcagaa ccttgtggag gcgggggcga cggagctttt attgtcggga tgctgtcgaa   4260

gatatcttga atctctttgc tatctgactg atcttgtttg gcggttaacg cctttggctt   4320

tttggatctt gctccagtac cgacactctt tgaggtggcc tggatatcat cgtcatcctt   4380

atcaactgct tcagactttc gtttcctttg cgtttgagag gttgcaggtt tggctgcgct   4440

cgccggtcgc cggggggcat cttccataat cacgtcttca tcgtcttcac caagtgcaga   4500

acgcttttg dacactggcc tgccccgagc accatttact ggtttcgcca agggatcaaa   4560

atcatcgctg tcatcgtcat cttcttcctc tttataatcg tcgttccctt tgcccgcctt   4620

gccatactcg gtcgcaaaaa tgtcgtcatc acccagcttt cgtcgtcaa dacgcacagt   4680

agccttgttc gtgtcacggc gagacccagc tctggttgcg tctttctgct ccgcagtccc   4740

cacggtagct tctggactct ccgtcttcgt agcgctactt ttggatggtt tgttattggt   4800

atctgcgtta ctggatttag ttcgtccttt cttcttgcta gatgcgaaat agtccgaggc   4860

cgtcgtaggt tcgccttctg gcactgcagg cttccttcgg tcatgcgtta gtggacgaag   4920

ctgtaattcg actaaaagag ccttacgact tgctcgaagg cttagctctg gagaccgggg   4980

catcggtcac cacgacatca tcgtcatcct cgctgtcatt gacaaccttc ctgccacctg   5040

taactttgtc aatgcaatgg tccatgtgct atagatttcc gcgaatcgta cgcttattgc   5100

gggctggggt ctgtttctat agcgaagtta acagccatcc atcagactaa gcaggagcaa   5160

aatactgggc ataaattaag cattggcgat catacacata cctctttttt tgcaggcggt   5220

ttcgtaggag acgaggcgga gccttggctc gacttgccac caaagaaact cctgatatca   5280

gccggcatga tattcacatg aaaagaagaa gtttcaggag gtgaagcctg cagatttctg   5340

aatttggagc caggccggct ggtctttaca caagacagtc tcaatttatg acagcctcgg   5400

gcctcagcgt agcagttagg caacgcgacg cgcctacctg cctagagctg tgacgcgatt   5460

aaattagctt atgtaatcaa cttatctgag ttacacgtga ctggcctcta ttcggcgcgg   5520

aacggaaaaa cgctcaagag ggagtgccga gaatcagaaa gtctgcggtt tctcggtgtt   5580

gctccattcc gctgaaggca agcgtcgtga attacaatgg ggtcgcatct caaatatctt   5640
```

11727

```
gcacggccgc aatttgcgtg ccttcagcca acatgtatgg accatccaaa gaattctgcc    5700

gctaaactga tgcatcttcc agcactaggt ctgcgaacat ctgtaccctt ccttccgctg    5760

tcacgatgct tctctacgac ttcgccggct ctcgactggc ttactcccaa gatggcggaa    5820

acctcaaagt cgcccaaggg tcgtccacat gtcccgaccg gaggatcatc acgaggcaca    5880

acagtagtgt ggggagatta tggactacgg atgaaagacc acgaccgccg gttgccggct    5940

gcttccctca agattgcaga agaaaccatc aagagacgtt tgcgaggaat gaattacact    6000

ctgtacaagc gcgtgagtgc caacattggt gtctacacca agggtaatga gcagcgtatg    6060

ggtaaaggaa agggtaaatt cgactactgg actgcgaagg ttgctgtcag caggattgtc    6120

ttcgagctca agggcgatat tcacgagaaa gttgcaaggg aagcgttccg tcttgcaggt    6180

cacaagctac ccggtatgtt ttagagttgc attaaaaaaa aaagtgagcg caagtcattg    6240

atttatatac aggtctctgg gaatttgtga ataaaggtga tccaccagtt gttggcctta    6300

cgaagctcgg caatggtgtc acattggaga gcttgaagcg agctcgaaga aacccacctc    6360

taggaacgga caaattgtct aaacccccga agtccacgtc ctcaagccca tcggcatcgc    6420

aatagacccg atatatcatt caaactatta actttccctg gttcaagcat ctacgcacca    6480

atcccagagc caggcccata cccttgttct ctcctagact tggcggcatc atgttcggtt    6540

tcgtcctagt atcatgtata ttaccattag cttcgcgcac tcttgtttta tcgccaacta    6600

cgaagatgtc atataaagga gtttatagga aagggaatat accgaactct cgttggtata    6660

tccagttatg ccagaggtgc gctctccaag ctcgagcttg tgcgccaatt tagaatcctc    6720

ccttttcgcc tttgcctcgc tatgatcgcc ggcgagtgta gttctcgttt gacttttggt    6780

gtgtgggagg ttgtctagaa acgatcagga gcggggtttt gcgtagataa aggacagtga    6840

gacctacaac ctagctgtcc agtctgtttc tctggtgtct tgctaaactg ccggacccct    6900

tcatacctat atagttttta atgaatgtcc aatagcttct gaagtcttgt caaactcact    6960

gtgtttgttc gccgccagcc tcgatatcca taagtttagt gtcggtcatt atgaattgct    7020

atatcacaag tagatccagg agtcagatgg attgaatgag ccttgattgt gagcgattgt    7080

aaactgttct tcaatggcct gagcgaggtt gaggacgagg tgctcctgat atacgtactt    7140

cgaaattatg acgtagacac ttctactcag cctttctcta cctgacctac ctcgctttcc    7200

caaatgtgag atctgaaata tttctttact actcactgca ctcttcactc atcgatgcca    7260
```

11728

```
tcatgcaaac tagaactgag gttcactatt tttgtatttt tgtattcagt gatcagagac   7320

cttaaacgtc acgtcacaaa gtttctgctc aatgagcaca aaacaccatt tacggcatgc   7380

ccacttcgtt gagcaggcga gtttgaatca gagcttagat taaataatgc gcttgagttt   7440

ccacatgcta tacctaaggc ccacaacact taaatgagtg cttcagattc gcacttggtt   7500

agcacaactt tctgcttgaa taggttacgt tccagacttg cctaggctgt catatgtcag   7560

tctggagcca tggagcgtac ctgagatgaa acatttggca aaatgttctt cgattttcc    7620

gtactgaata tggacgcatg gatatgtcga attgtcatag ccctcttctt aaatcatgga   7680

caccgaaata ctcactttgc ggtactctgc ttgtggcttc tcctgcagaa taacagcaat   7740

cgggttttag gcgcctacag cgcgtagttg aaagcatggg gccgtagtgg atagctcagt   7800

agcaacgcaa gagtctcaat taatgtacaa gactattaaa atcagagctt ttccggcttg   7860

tctcttgttt attcatcgac ttggcataac gatagaagat gtaagtccct atgagttaag   7920

ttgacgtatt gtactgaagc agtagagtat attgagagcg actcccctta tgccacgctt   7980

tgactgttgc tgagttgatt tgggggggaaa tgtaaggcat gtatgtctcc gggaatttga   8040

gtcggttgta gatatgacag gattgtacag aagcaagagg ttcatagaat attagtatat   8100

cattaatctt ctcatagtcc gtttgatcat tttaaaagtc catgcccata aggtaactgc   8160

gtggagtaag ttagataatg ttcactctag aaacgtaagt acaaaccttt catatatacg   8220

catgaacttg gcaacaaaag cctcgagatg aaatattact ttctgttctg agtcagcttt   8280

gacatcatca acaactcaat ggaacccttta cactaccctg agtgattctg tgctcgtaaa   8340

aagcagacca cttgattact tcaggtttca gggtgtcgtc aatcttggcg atcaatttga   8400

atgtcagtgt ctagacatgg ttagtagatt cgccgttttc cataatcagc taacagacct   8460

tgaggatcgt cgtagccggt atacagtggg ttaacagatc ataaccttg gcacggactt    8520

gtaacagtct agccggtgac ctctccgcaa gaatctcttc cgcgatcacc gagataagag   8580

cttcccagtc aggtggtgga atgggtgtat catccgatac tttctcacta cggagaacct   8640

tattagctcc acagagcaga gggagtcaag aagcatacct ctgagcataa atagcctcga   8700

acataagcag cgcacgacgg agatttcgcc cactctcctt cgctatccgt ttattaagct   8760

ccggggcctc attccaacct tccctcttcg ccgatgtgct caaaatggta cagatatctt   8820

cttcactcgg tgccgcaact ctgaccaaca gagttctcga gcggatcgga gcaatgatgt   8880
```

11729

```
tagacgtgct atttgccagg aggatcagtc gcatattggg actgtacttc tccattgtcc    8940

gtcgaagggc cgcttgcgca tctcgtgtta gatggtccgc ctcgttgatg accacgacct    9000

tgaaccgctg tttcgcggac agatcgactt gttgcgtctg cgcaatttct ttgagcagtt    9060

cctggacaac aacgcgatca taggtgccga catcggaggg cgttatttca agatggtaga    9120

cagaagagac gatattaaat tccagcttgc ggttgcttgt tgtttggaat actcggttgt    9180

cgattttgat cttttcgacg cccgggccgt agagttcttt aagggtagct atcgtgcggg    9240

ttttcttgcc agcgccggat gggccgtaca tgagaaggtg agggaagtcg ccactttggg    9300

cctgaaaaag atattagagc ttgagcttct ttaaaatagc tggtgatttc cataccaaag    9360

accttaatcg ggcggagagc tcatggtgat atgagagcgt gtcgagggat ctcggacggt    9420

gcttgtcgac taagagagcc atgttgtgta tagaactatt atagctcggc aataatcgag    9480

caattgagct tgtattgttg agtggagagc tcttgtatcc aaaagctcac gaaatcacga    9540

aagttggagt tgcagacgcg tcgtgacgcg agcttaattg atatttatgc atatgactaa    9600

tgactctaca taactagcat accacgattt atacaccaca tggaaagata tgaacttgag    9660

gaatccacgt tctagagttc aacattaaca agccgataat tgtccctcac tctgtcttta    9720

ataaaagagg gtttattttc tctgtaccat taacattttc atcttgtctc tccacaatca    9780

cgcacggttg cccgatcgac aatctcacga agccaagaac cacgataagc tataactact    9840

gtacacaaca cagactggcc taaccctaat ttctgcggtg gcttatttcc cagtcgcttg    9900

ttatcaatga ctggcaatca ataactcgcc atcctgtggc cgctgatgat aacgccatga    9960

tgctgttgct tgctgacatt cttgggcctt gctcaagcga aggcgcaaga gccgattggt   10020

agaggatcac tttcgcttgg aacataatca gttccaattt gccgccattg ccaatgatac   10080

tacctctagt gatctgagcc aatcagtaat tagtgaattg accaaaacgc actgttagac   10140

tggccgaaag acggcggcga gttgtacaca aaggaagcat cagacatggt tctgcagttc   10200

agatcgcagc atcattttgg ttcgccaaca atgggtcctt gacttaagga acgagaagac   10260

tctctgacgc tcagtctagg actttcgtct acgattgtct agagactatc tgatataggt   10320

cacgagcgta ctgaggacgc tgtagaccag atcgcagtgg tccccagcc tcctcaaaag   10380

cgtcaactct caaattaacc cacgatacag tcatctccac gtcttagctt cttcccctga   10440

atcctttgtt tcgatctttа tttcatctct tggactccgt cattctcttc gctctccctc   10500
```

11730

```
catctgttag attcttgtcg gcattccaga gcgccagcga ttcgcccgcc cgcattccta 10560

gccgccgtca accgccgtcc tcctccactc cgatttcagc ttcatcgtgt cgaccgtcga 10620

tctcatggcc tagaactata tatataccac ttttccaact tttcgcctcg aagccgctta 10680

ctgtacatct catagtggtc gatgatactg cgggcagtgc catggatctc tcccctcgtt 10740

ctggcatcag ttccggcggt gaccgtcccc cagcgtacaa agcgattgga atatcactag 10800

ccgtcgcctc tggcgtcttt attggggttt cattcgtact gaaaaaagtt ggtctcctgc 10860

gggcgaatgt caaatacaat gaggaagctg gcgaaggata tggctacctc aagaatctgt 10920

ggtggtggtc gggcatgacg ctcatgatca ttggcgagat ctgcaatttt gtggcatatg 10980

cttttgttga cgccatcctg gtgacgcctc taggcgctct ctcggtagtg atcacaacaa 11040

ttttgtccgc catctttctc aaggagcgcc tgagtttcgt ggggaaagtg ggctgttttt 11100

cctgtattct gggctcagta gtcattgcgt tgaatgcgcc tgagcaggac gcggttgcgg 11160

acattcagga tatgaagaag tatgttatag cgccggggtt tctgtcgtac gccggagtca 11220

tcattgtggg cgtgcgccat aacagctata tgggcagggc ccgcgtacgg caagcggagc 11280

atgttcgtct acatcagcat ctggagtcta ttggaagctt agtgtagaac cacttagggc 11340

ttgggactgc cttctagtta aataacg                                      11367


<210>    5750
<211>    4170
<212>    DNA
<213>    Aspergillus nidulans

<400>    5750

tgtccagcat gatcgaggaa gtcaacaacg cctcgtcgac gctcagcaaa acaaacaagg    60

ctgacgaacc ggtaagaaag cctggcttga ctgcttcctt ccggagcctt atgaatcaat   120

acttacttga gccatgtaga tttcccaaat tgttcgcatc ctcaattcgc atctctctca   180

gttgcagacc atcgatatgg gcaccactga actccagaca aaggtcgccg cggcgcagaa   240

ggctgggcag agcatgtcag cgcgcttcgg gcatggactc agtatgtcag gggctggaag   300

tgcaaatgct gcggatgact tttaccgttc ttacatggga cgtcggtaaa agcttgggtc   360

tacatgagtc tttcgttttc tttaatcaag attattgagt tttaggatgc cgataggatg   420

gtacttatta ggtaaatgat ggacattgca ataggcccgt ctttcactta cgtacttggc   480
```

```
gtacctttgg ggcttactgt ctattacagc ttgttcaata cgtttcaatg cctacttacg   540

gaaggaatca agtgaacagg tagtcttcgt aatcctgctt tcaaacggag agcacataat   600

tacgagctat tattgagctg agaagggttg tcaattaagg tacattgagc caaatacatc   660

agcgctggat gatgcggatg atatgtgctg cgcgaaatgg cgggatatcc ttcgccatga   720

agtaacatgt ccgacgagca ccactttcag aatagcttta ataaatcaag ttcatttctt   780

cccgttctgg gtgaattggt cactggtagt ggaatcacgt tagctgaaag ttccacccgg   840

cacgaaatcg caggggacca ccaaggggtg gaggaattaa agcatacagc tttttgtcta   900

gctcattcag gtgctcacgt tgctcttgaa tcttcttctt cagagcctca agcctatgaa   960

attggattct gaggtcagta agatgtccaa gagcggtcac cggtcgttgc aggcactgcg  1020

aggtaggagt attacttttc cttctctctt tcgtacatgt agaggttctc ctgagcggtt  1080

tctcgcttct gccacacatc actgaattgc gagatcaaga tgttagctgt ctggcctgag  1140

aactgaatgg gatggtgttg tctaaagctt ggacgaggat atgacatcat ccgatcaaag  1200

tgcatgaaaa cgcagtgaga tggagcaagg aacgtagttt gctcaagtct cagagtagtg  1260

agaagcaaaa gcattctgta tacgcacctc tgcgcagcac cgccaggccg gggagcaccg  1320

gtatcgcctt cacccattct tggagcaatt gcggagaaag ggcgggtgaa gatagcacgg  1380

gatgtcgtgg agagaggacg agtaatggat tggcgaagca tagtgattgt agattgtggt  1440

actctgtaga tggaagtgag aagttttgaa atcgttgatg tgagagaaga taaatggatg  1500

aaaagagagg aagagggggt ggtctgactg gtgagcaaca gtagtacctt atttgttgcc  1560

ttgaaaaaat ggcagtggct gaggatatac ttggcgttgg ctggacccag ctgacgtcac  1620

taagtcatgt gattcaaaat gagtcagccg ttcccagtga gatcatgtga tatttaatga  1680

tcagcctgaa ataatgaatt gtacaggggt gaatttaggg aaagtctcta gctctgcctg  1740

ctgtggtcgt atgaagtcta taagatatct acaaagttac ccccacctcg tactttcaag  1800

agagttgatg aggcaggaaa ggaagtacag tagctgcgga atcagaggca gaggagaccg  1860

cacaggaact gaagcttcgg cggctgtaca tagaactcga tggaagaaca cccacgagcc  1920

gaacaactat gcatcaccaa ctcacccatc gtaataaagc tcttgcctat ggtacctgta  1980

agcgcgaaac cactagcagc gaggctcatt caataatgcg ggaatcatct ggcgattggc  2040

ggaggagaaa tagggatgac gccggagtgg cccactgctg aaccacacac accacactca  2100
```

11732

```
acagaagggg ggagtagaat cacctcgtta tagaggtaga gggttgaata tacaatcaaa 2160

cagatcaaaa tagtcaaaaa gattgatagg acaaagtaat agtagacaag tagcgtgcct 2220

cgcaggttat cggcagagac aagtgggtgg ttaacggtga ggcagccaga gccccccagc 2280

aaatggcagg aagaagactc ccctcccacc tctgagcagg tctcccccctc tcccaacttc 2340

gacttcctct cctccttttg cgatttcgct ccgtcactat ttcatttccc ccttcacttt 2400

tcaacctcct accactttta acactaaatt ccctcccact tctttccttc ttcctaatca 2460

caaactctct caacaactga atcctctttt gtcgttgcca tcgcacaggt gagtgaaact 2520

cccctccgtt tcctcccagt ctccccctcc ctcgctctta cccttcgcct caacgcaccc 2580

atctgtgtat tccacgcgtt catcgatagt tttacttgct cccctctgct ggtatctgtc 2640

gaatcgctcc agctctctac aaatgtggtc ttgggtcgaa ctgcatgcct ggagttcaag 2700

ccgcccccgg ctacgctgga ctctataacc gcgatgctgt ttactcgcta ccagccgagt 2760

ggaggactgg cggaacaaca agctgctcga cgtctatacg gctaatagaa tttgcgattc 2820

agccaacttt tcgcgagatc gtcagttatt ctcttgactt gaaaacgtgg tctgccgttg 2880

ggttatggag tgtatcgtgc tatcaaccgt gtgacagctg gccccctag tgcagggcag 2940

accagggcag ccttcactca cagcctcact ttccatcaac ccgtgatact tgcaccctac 3000

cccacgcatg tttcttacag tctaggcctt gtcattccaa tttttttttt ttgcacgagt 3060

ttcgtttttg gttttgtatt tttttatat ccccaagttg ctgtgaattt cgcaacactc 3120

gagtccttgc caacgaatgt gcatacttgg tgacagccgc taactttcgt ctaatactgg 3180

ttagattatc aaaatgggtc acgaagatgc tgtttacctg gccaagctcg ccgagcaggc 3240

tgaacgctat gagggttcgt tctccttgtt tctaggtcgt tgctggaact cgtggcctcg 3300

atattgacgg agttccatct agaaatggtt gagaacatga aggttgtcgc cgcctctgac 3360

gtagagctca ctgtggaaga gcggaatctg ctttctgttg cctacaagaa cgtcatcggc 3420

gcccgccgtg cgtcctggag aattgttacc tccatcgaac aaaaagagga gtccaagggc 3480

aacgagtccc aagttgctct cattaaggag taccgccaga agattgaggg cgagctcgcc 3540

aaaatctgcc aggacatcct ggacgttctc gaccagcacc tgatcaagtc cgctcagagc 3600

ggcgagtcca aggtcttcta ccacaagatg tatgtttctg tagttgttca tctatgccac 3660

ccatcttaac atatctctac gccaacagga agggtgacta ccaccgttac cttgccgagt 3720
```

11733

tcgctgttgg cgacaaccgc aaggctgcgg ccgacgcctc cctggaggcc tacaagtctg 3780

ccaccgaagt cgctcagacc gaccttgccc ctactcaccc catccgtctc ggcttggccc 3840

ttaacttctc tgtcttctac tacgagattc tcaactctcc cgaccaggct tgccacctcg 3900

ccaagcttgc tttcgacgat gctattgccg gtatgtagcg cattaatgtc agatctaggc 3960

gctcgactaa ctttcgttgc agagcttgac accctgagcg aagagagcta caaggactcc 4020

actcttatta tgcagcttct cagggataac ctggttagtt aaattcacgc gatgctcgga 4080

acagttcttc tgacatgatt tagactctct ggacctcctc tgaggccgaa cccgctgcag 4140

agaatgcccc cgccgaaaag aaggaggaag   4170

<210>   5751
<211>   3483
<212>   DNA
<213>   Aspergillus nidulans

<400>   5751

tccctgcgat gcctcgagtt cctgataaat gcgacgccca aaccatttct ccctcgccaa   60

tggcagctta gcagctgctt gagccatcgt ctagccatgt cgcagacatg gtcaccccaa   120

accactcatt ccccgagttc tgaccttttc tcaacccgac ggttgtggag atgccgctgt   180

aggcttcgca gagaggcagc ttttcatgtc gttccggcta cgagaaacga ctcctctgca   240

atgacatatt tttcggcctg gcagtttcga ctaccaagcg tgagttatga ggacagactg   300

caattattca ctgatctact tgaagatctg atccgattca gagtccaacc tgacaggcga   360

ctgcacaatg tcttagcgtc cgaatcgctg tgcaacggct atcgctccta atttcgcgaa   420

cttcatgcca attccttggc ccaattcaac atcccgagcg ttgcgtgata ttctccgctt   480

cactgatcaa tatcgtcgct ctaggaacag ctcgcggctc ccccgagcaa atcgagcaga   540

tcgactaaat cccaaggccg tagagtattt gatctcgaat tgcagaaaca catcatcgtc   600

attgccgtat attctaacac caaatatcct tatacgctgg tatagtatcg aggagttcat   660

atggtgcggg acgtttcgag gctcggggag ccgcgtctgc ctgtttaagc gggtattcga   720

caatcggggg gtaagcttcg gaacccggtc gtacgagtgc gaggacaagg acgaggacga   780

ggacgaggta cagaggctca gaaaaggtat ggtcgttcct gatttcctgg gttcgtcaaa   840

atatccgctg gccaacgact ctgagcgcgc tcaacaccgg cagcattggt ccctgcacag   900

11734

```
caagatgctg tgaaacaaat attactcacc tccacccaca agagccctca gctcgtggcc   960

tgggggtaag ttcagataaa gaaagacaca gtcaacgagc gacagctcga ttccacggcg  1020

acgcttgaac cacgacacct cgctgtcgac tgtgcccagg cgttgaatgg cagaaacagt  1080

atgtcattgg gtgagaaagt ggtggacaag gtttactggc gaagaaagta gtttggttcg  1140

tcgaatgtct ggtgggcttg gggacacagc acaggtaact tggtcaatcc tgtgacagcg  1200

cggtggcctg agctgtaacc tggtcaatca tcacgcatcg catacgaggt cacgtgtgca  1260

tgtgaccagg tgccgagcgc caagcccgaa atcgtcacta ggacagaaaa acggctttcg  1320

ccccgatcca tccctgaccg ggagtggacg gggggggaca gcatacggag tggcacgata  1380

attattctga taattactct gcataagaga aaagaataaa tgtattggtt ctcagtcgtg  1440

ttcaagacat tattggctac tgcaaggctt agacttgtta gaacactccc tggtcagaca  1500

cgccaatatt cctcactact tcgcactagt cggtagctag ccattcgagc cccgccgcca  1560

catgggagcc agcattagtg agtgggcgag gatgctggag aacgctgcga ctcgctcgat  1620

aaccagcaag tttttgcgac acgattacgc tccgagtcgt tttctggcgg cggtttgaaa  1680

cctcccaaga atatcaggct gcattagcga gcgattcggc gcaagagata gtgaggggca  1740

tttgccagcg aattgactag agtacattgc ctctcttgcc tctcttcgag gcagagcatc  1800

ccgagtcgag tacaatccgg tcggctggaa aaaaagtacg atccaacctg attcatactt  1860

tagcacgcgt aagtacgcat ctcgatctgg acgcagagtc gtgttcaata tgcggggtga  1920

ttgagattca gcgtggcgaa ctctggagtc tcgagtctgg tgagtaagtg atgtgtcagt  1980

tctgtcccgc tcccacagcc attcttgccg agccagcgct ggtgcaacc gagggatccg   2040

cgctggttgg agattcggag cgacggctcc aatagccaat gtagattcag aaaagactga  2100

cactcttgga gatgcgaaag gaactgaagt acgggggtat tgctttggca gaaggaaccg  2160

taccacggtc gaggatctca ggcgggccga acggcgactc agatccgctc tgccagtgac  2220

aggtgggttc atatcttaat agaattcgat cttcgctcaa tgcgtgcagg ctgaagaacc  2280

agtctactta taattcgtac ggatactgca gagcatagcc ctttctttga cacggaagtg  2340

ccggaaactg caggctgctg cagagctgct gcagtacgct cccgtgcgag gaactcgact  2400

cttcaaccac ccactgtaaa ggatcgacgg acggcacaga cagaagaaac tgcattttcc  2460

agccgtcttg gaagcacact agagactgaa acccccagca cagttagcac aaaatagctt  2520
```

11735

tgtgctagct gggctgctag tgcgtactcc cttccctaat ggccgtcctg cataggctga 2580

ctggattgca ctggacttct taattcttaa ggcaagcctg cagcctcggc cttgcatttt 2640

ctcgttttct cccgttctct cgcctcacct cagctcccta cgggccgttt cgtcccaatt 2700

atcgctccct ccacattttc ttagtaaaga accggtttt gatcgtcgtt tcttttggtc 2760

ttttgatttt actattttgt cggtcgcaat ggcggacacg gagcacggcg agttcgagcc 2820

ccagcagctc attgagcccg atgttggtcc ccttttcgaa ctctgtctac aggcatcgac 2880

atttaacttc tgaaacgcag accttcgatg accaggattc cacctaccag agctcgtaag 2940

tcgaccgtcg gccgtcggct gtctaccacc cgcgctgccg acgttcgcta actatcgcag 3000

gctgggcgac gccagctaca caaccagcat cacgtccagt gccatgaact atacgtatgt 3060

cctgctctcc attgacttat atcctcactg acccacccag atatgaggta aattcgttaa 3120

tctaccctgt ccggcaataa ttgacatccc tagaacggtc gccgatatca ctcgtaccac 3180

gaaggagaat atgtcttggt acgcatcgca tcgcatcatc tcgtggggaa gttcaacctg 3240

tctaataacc aattagccca acgatgagca agagcaggac cgtcttgacc tggttagtgc 3300

ggcttcaacg gacgtcacta gttttggggc ggccaaagat tgaccacaac agagccacca 3360

catctaccgt atgctcctaa agggcgagct gcaccgggcg cccgtcaaga acccagcgcg 3420

ggtactggat atcggaacag gaacggggat ttgggcgatt gatttcgcag agtgagcgac 3480

cag   3483

<210>   5752
<211>   8580
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations
<400>   5752

catcccaatt gacccagtag catccactgc ctggcctgcc accgctcacc ggggatacgt   60

cttcctggtc gccgtcagtg cctttacccc tggcagcaca gggaaacttc ctactcgtcg   120

cggcgaacag atgtctctcc ccgctttctt cgagtggcac catgaacggc ttcaggagca   180

cgctcaggaa gcttctggcg atctgtccac cgggcaaacc gcgcaaaatc ccggtattca   240

ccccagaggg atacgcgtgc acaaacgacg tatttttgta tcgccgtgcc atctcctcca   300

agtagaaatt ggtcatgagc gaggcatggt ggccgcactt taatgaggct gaaggtatcc   360

```
tttagactga gatccttata gtccagaagg gcggaaccca gtcccaaggg acggacagag  420

acgtgcgggt ccagcacaga gacgacacgc gagatgaaga tccctggtcg acggccgtta  480

gctccaggcc ggtcagcttc agcttgaatc ccaggcccaa aatcagactg aggaaaagac  540

ttgtccgcag cagattcaag aagcgggagt aaccggttga cgaagcgcat gcgcgcatag  600

taatgaagcg caaatttccg atccagccct tcagtcgtct catctctgcc cctgagggtc  660

aagtaaccgg gcgtcatgaa gacgatgttg acatatcttc ccctagattc tatctgctta  720

cagatctgat ccacgttctt catcagcgaa atgtctgata gcaggaagat cgcctcagcg  780

gacggattca gcgctctgat cgagcgaacc gcgctctcag cggcttgtct gctctgtccg  840

atcaagtaga tcgtggggga cacggtgtgg cgcgcgaggg aaagggctgt ggagagagat  900

atgccggatg ttccgccacc atgnccacgt tttgcatgtt agattcaata ccacatggag  960

cccaggaatt tggatacctg gactgtattc tgagggtctg gtaggtttgg tttaccaaat 1020

acggcgacga gattcgcccc aagggatttc agggacgcgt tgtgggcgcg cactgctcgg 1080

agagagacca tagtcgctgt tggtttggag attagatcga gagattggca gatatattaa 1140

tggtgcagtc actttaaaaa agaagacaat atggaggtag ctatatagtt cactcaatgg 1200

ctgatgtgat gtggctgacg agagccactg agagatagaa tatgcaggat tcacactcct 1260

gcttagacgg tcgtccaata actaatgatt caaatataat aataacagaa ataaaacaag 1320

aataaatgaa aatagaaaat attctagata atgagctgag ggctgcccgc tcaggcgcga 1380

tccaacccac aaacctaaac actccctttc tccaactcgc gatactggat taacggtgtc 1440

agcgtcagct actgcccact tctatgtgtg ttgccgtagc tgtgaccgac ataccatagg 1500

aagtgtggcc gtcctctcat acggaggagg cgcctcagaa tgcaagggca cagcttctac 1560

cggcaaatga gcctcgccca gctctctcct cgacttcttt cgctcgtgcc agtatgtccg 1620

gcttaggatg tttctttttg atgcagacgc aggctctgtg gtaacgggct ctgtacctgc 1680

ttctgcatct gtaaactggg atttatcccg ctgctttgcc ttttcgtgct cgtcggcgta 1740

cttgacggca atgaggattg caccgatgag gaggagggat gccattggtg acttgacttg 1800

ggcgagccga gacgtctaag aggttgaata gtagaaagac attgcggggg agttggaggt 1860

tgttatattg actctggatt aaaatattct ttactcttga ttgctccggg gcgtccccgg 1920

ttatatgctt tactgggatt ccctaagctg tcacaaatca cggcgcagtg aaggcgcagc 1980
```

```
acaaaggttc caaatatcaa aatcacctat actcacacaa atagtgcttg tatccaatcc 2040

agacctacgc tggctccaga tcgcaacgca atcctgtatg aggcagtgcc aggcgggtca 2100

gcgtaagcgt aagcgtattc ggctaagaag ccccgaatac gctgcagggc tgagcgaatg 2160

tatatagctg gagggttcgc gaattgtttc tagaaagata tcagattctc agcctccttg 2220

ctgcatgctc agaggctaga tttatcgagc gctagacttc aagctttttc tagccgcccg 2280

gcgtcatagt gccattgcta cccaggtacc attgttatat tgccagccag tagaactcag 2340

taaattccgc gttctgcagg ctcttgagac gggatttttgt catgttagcc atgcaattgt 2400

cggacgatta agcttagcgc gcatgaacac atgactataa gcatctccaa ggttttatc 2460

aatatcagag tgagatcttt ctcctaaaga aagcaaagat caaactcatt agtgtcatga 2520

tcaaggttaa accaaagccg gccagtaaga cagcaagaag aaggcaggac acgcaaggcg 2580

agagaatcca tttttgatta gtggagagtt cgccatgtcc taagattaca cgcatcctcc 2640

taaaatgcca gtctaacttc tgatccgtag gcgtctatcc tcttactctt tctggtcagt 2700

aggcttcggc gcctccaaag gcttggtgag accaacgcgg tccatggtgc tggtatattt 2760

gatacctccg tttatgcggt cctcagagac aacaaggtcc ttgcggttac cgtcaacgag 2820

gaggcggatg aggtcggggc gcatgtagtg cccgccctgc attattcatt aatttccatt 2880

tgtattcgta gtagggtgaa gatttggagg cacgtacaaa gtcagcaagg acttggtaa 2940

ggtgaatttc gtcaagatcg atctggactt gttagcatga aatgtctcag tgagagaagg 3000

gtgaatcagg tttataggcg tacatccacg tagagaagac cctgaaagtc tttggcaggg 3060

tgaggaacga gattccggcc gtccggggca aatatccggc cgtgtccgtt gtagatgttg 3120

ggatcctcga gcggcttgcc tgggggcgtg ttgagcttga tgccctcctc agtaatagtt 3180

tgccatgggg caagggtgta ggtgccagtc tcgatcgcgt aggcgggtgt gacaagctgg 3240

ggcaactcat tagcaagcgc ctgcaaaggt caggcagcag cttgttggtt gggggggacac 3300

atacatcgca gttcgcctcg gcgacattag tatagggggtc agggtacttc agcgtctcct 3360

tgccgggata caacggccac gcggcaacgt gcacctgctc accaagcgag gccgcgtagc 3420

tcttcatgaa cgggttcatg ttctcccagc agttgaggtg tccgacccgg ccgatctcag 3480

tctggacaac agactcagta gtatcgccgg tgccgtctcc aaacacgaga cgctcaacgt 3540

gcgtggcgcg gatcttgcgg cggtggttga ggatattccc agccggtgag atgagcacct 3600
```

11738

```
gagtggtgta caggctcgcg agatcgacct cggagtagcc gagagacacg tagatcttgt 3660

tggcccgcgc ggcttctctg atacgtcgca tctcctccga gtcggagaga aggctgttct 3720

cgcgatactt tttcaatagc gggagagatt cctggtagtt gactttccac atccaatagg 3780

gataaccggg gatccagagc tcagggaagg caatcagttt gcagcgattc cggccggcct 3840

cgttgatcca gtgaatggtc cggcgaacgg actcttcaag gtcgaaccag ccgggttcag 3900

cgttgacggc ggcggctttg tacttcttga ggactgggga cattgtgaga tgattgtaga 3960

aacagaacag attcttattg agataaggtg tctagctgga taagttgaag acgaagcgaa 4020

tgagggagtc agtaactggc agaacatcga agacaatcat gccttcttat acttccagtc 4080

actataccat atcatatcct tcaaaggcca tccaagaggc acatggctcg gcctttgcat 4140

tcggcgtctg gagaatggcg tgaggtgccc gggatctgga gtatggggct ttgatatcct 4200

gagcctctgt ccgccagttt cactgcagaa gccggtcctg tttatttacg ccctagcagc 4260

gcttaattcc gagccctcac tgcctgccta ggttccgggc cggtccgctg cgccaggcag 4320

agtgtcaacc gttgatcgct gagcacgtca gtcgggattt gctgacccgt ccactccaca 4380

gacggcaagc atgggatcca gacacgagtt tcagagctac accgagactg agtgaccgga 4440

acactgctgt tgacgctgtg caatggtctt acatggcctg tccctacatt tggctgtatc 4500

agaccccggg ttgttatctt caaacaccgg gactcgtctg ttggccagtc acagaaccgc 4560

agcgaatgca gaaaccatta tgaaccgtcc ggactcggcg aattccagtc gtatacagat 4620

tagacacgta ccttggttac gctgcaaccc agtctcagtg ctcgacgccc gtccatgtta 4680

cgcagagggg gttaatatgc cctggagacc cattggctca cgacattgag ggagttggag 4740

ttgacttcag aaagtcgatt actgcattcg ccctcaggaa gacctgttac tttactatca 4800

atcggcagcg agggtttaac tctgtcgtga cccttcgcaa tatgggtgac acgggtccaa 4860

caagcccgct tttctccttt gacactattt ctattgtctt tctctgacat ggacacctgc 4920

gagacgcagt gaagcataat gccgacaccc tgaaacgttt ttactccaag tatcttgtcg 4980

gagtgtatat agttgtcctg gcaggtaagc atgctttgca gcttgaaaac ttgcttgaac 5040

tgggtgattt ctttatgatg cgatgtgctt tgaagacctt ccctgtaaag gagaaaagta 5100

ccgtctcaaa tataaaccag aggtcccctg cgctccatga tgctctgata tcaagagagc 5160

actacactat agcgccgaga tatacttcct cacatacgac aaccaagatc caaaggacta 5220
```

```
gctaatctga ctatatgtgc ttctgattct tactcaatct ctacgcctcc gaccatcacc 5280

gttaccgatg gctgccacac ggctgaagca tttagtccac ttgataccat cttttaggac 5340

ctagcaccac tgtgcaagca ccgcagagag tccttctta gaccctggtg tgaggaaatg 5400

taagagacag atcaatggcc ttgctgtcga gtatccatgc agtggatcaa tctaaaatac 5460

acaaaatggt aagttgcaag actcctaatg gacattttct catctcttcc ttccagtcca 5520

agttttaaaa ctcgcacaga aagtaccaga ttcttcttga cctcgaaggc cattagacta 5580

gtatgcacta agtgatggtt ctatattagg atgaagcagc acaagcgtcg cgcatattgg 5640

tgatcaacga ggtgaataaa tagaggaagt ctgtcttaag gaaataacgc ctaccagtat 5700

cgcatcgtcc aagagttcaa catcttttg cctgcgggtc attaaagtaa acttttatat 5760

tcgagcagtc ttatggcctc atgcactgta ttttgtttca ataacgcta ataatagctt 5820

ttggtctctg agccttcagt ctgggatctc tatgtgactc atacttacga aacagtcagt 5880

ctctgggata caaaatagaa catctaaccg ggaattacaa gcctcttaag cacagtctag 5940

ggaagtctga ggaataaaaa tagcacagcc actgacaagg gctagactct gaagggcaat 6000

tcgacgatta ctcagtgctc acctcatctt gtctcactgc ggctgagctt ccgcccagaa 6060

ggagaaactg tgcccaacgt gcacggctga gaactgctct cctcccagat attttctttc 6120

ttttctttct agcacgagaa tggataagct caaatcattt acaaataggt ggtcgacaaa 6180

aggtattatc tatccgtttc catctcattc ccctaaccaa acccaccctt cccggtaaaa 6240

ggactaatag gctacagaga acgccagtga gcccactgat ccaggtctaa gacgaaaaga 6300

acaggtccga cgtgcacagc agtacgctct attctcattt cggtcttcct tggtgtagct 6360

aaacacaagc agaacctacc ggctccgcaa ggaaagctac atcaagtctc ttgagcgcga 6420

gatcctgcac cttcgcactg ctaagtccga tttaacaggg gaaaccagaa agcttagggc 6480

agaggtacgg cggttgcgcc aagtgattga gcagcatggt atagtccttc cgtttacgcc 6540

gccatctctt gattccgaca tcacatcccc aagacaggag aatagtccgc agggagcaat 6600

ggcgacgctc tgcatagata gagaccatct gaacaataaa cgtctggctg tctttgacga 6660

cgctctgact tacgggacga gccctgggtc ggttcaaact gcgactgaag gtgttcacct 6720

cccggacggt tcctttacgg ccagtcgga agttgtagca gccatgaatt tcatcctcag 6780

gtatgtctgg tctcctctcc atcaaatata gtccagcaag tagtggttga gagttcagcc 6840
```

11740

```
tcgaggcgcc ctgtctagac cacgtccgcg ccgcactagg cgcccctct gcgcaaagcg 6900

aaatgggcca cggccatgcc ctaaccctaa ctgcttctgt ctttcgcctt tacagcgaca 6960

cctcactctt accagaggag gatgagctcc ttcatgtgtc gaagcagaca ttaagccgac 7020

tgctagagct ttctgtgcag gttaccacgg ccgaggagct cacgccgacc caggtgtggg 7080

cgttccttca ccaaagccct gcgtttgcag acccgaagac acgacaagag aagatcatga 7140

atgttgcgca ggagttggca aggtatatga agtgtcatgg gtaggattcc atctgtgata 7200

atatgcacct ttcttactaa tgggaccagg tatggagcgg ttattccaag agatgtggtt 7260

acgagggttg tctctcaggt tatccctcca caagggtcat ggcaggtgtg acttgggcaa 7320

agccatctac cttttcgagg cctttctaga ctcttattac atggtctcat gccgggagaa 7380

aggttctaga attgcaaaat catccgacag cagtaccgca aactgctgct gagcctggct 7440

tctgcccttt cagatctcca cgtataactc aaaaacattg ataactttag ccttgcaaat 7500

accatgctag cagatgcatt cccttctgac aggcagtttg tgcaatgaaa ggttatttat 7560

atggcggctg atatcatcta caaaagtagc cagtttagc aattgtgata gtaacatcta 7620

gttatagaga agagaaaact gttggcaaac caacatgtac ctgtcgttag ctttggcttc 7680

agcatatatg attactttg ctggctctcg aaggatacca aataccggaa ctgctcacgg 7740

gagattatca ataacggtat cgtttctgtt cttctagaac gagtgcgaag gggacggcga 7800

cctgggaggt atctctttgc agcggaactc ataagcttga gacttaagca agagtcttcg 7860

acggcaggca cggggacgag cactggtaat tgttcgttca atagtgaatt catacgctgt 7920

cttttatgga tctagatcgt attttttatt ttgtcgtagt cttgggctcc tatttgttaa 7980

ttaggcggga gtgctcgaca aggctttatc tgagctggat tggttctcat ccgcgttctt 8040

taattcttca ttcctggttt gagggctttc attaggggag ctgtagagcc attgctgcga 8100

tagtgctgcc ggatgttcag atgatattgg tatcctgccg aggaggcggc aatatttgag 8160

gctgtcgatg tagaacgctg aagaagatat caaattcgga agaagtagcc tgctgcctgc 8220

ggctaacagg gtttgagttc aggatataag caaggtaacc tttggtggct gtgttctttt 8280

agggcgtgaa aatgataggc tgtttcctgc tgggtcccat atgtaccatc ccagttcgaa 8340

acctccgcta tcaccaccat attgactttg tacgcagcg agtcgaacgc attgcggacg 8400

tcgtgggacg tatgagagac attctccagc gctgagcgcg tgaacagtgc tctctgcctc 8460
```

11741

gggatagaat gcatctcaaa ttcaacgacg ccgatcctag tgacttacat gaaccagcag 8520

ccaggcatac tatatccttg gctgtcttgc cagtatggca atatgcgaaa acaactacac 8580

<210>   5753
<211>   10155
<212>   DNA
<213>   Aspergillus nidulans

<400>   5753

ttggagttgc agcctcttca tcagggcgaa aaaaaaggcg ggaaaaactt gggttgcaag   60

agagaggata gagtttaaag atagcgcaca ctcaagatgc caggcgcgga agtgatagaa   120

aggggcctct cgtgctgttt gctatacaaa ctttggacaa cgagaaaaag cttccggaag   180

aagtcaaacc gagttccgga gagatccaat cacgtgacca actagaccca ttattcggga   240

tgagacaaca cctccaaagt caaagcaaac tatcgacact ctcatccttt gaacccccca   300

aatccttaca atcgcaatgg gtggaggcgg aaagatcccg tatgttgtct ataccatttt   360

ccaaccttcg ctatgttccg ggcttaccga tttgctttta ggtaccccaa ggaagtctgg   420

tctcccgccg gaggctggta cgctcggccc gcgaactgga aggccaatac cgctattatc   480

ggcgcggcga tgcttggaat agtcgctgca gtctggagca tcagtgcaga acgcgaatac   540

cgggacagga tgccagagcc gggcaggttc ttcccaagtc gatagtcagt catccttgca   600

atgctgccca ccgagtcggg aactatctta tactaacaca ctttcaatat gcgcagctgg   660

agcaagcaga ttatcgaaca cgagaggcaa caggccgcca aaaacgaatc ataagaacgt   720

gcgggaagac taagaaaacc gcagggaaag ctatggtatg gcaaggtcta tgttctataa   780

ttatgcgggc tgtacgacaa tagaaaggcg ttatcaatag gtcagttgat ctgcaggtga   840

ttttgaggag attcttcgag tgtccgacaa aatttgtggg tgtaaaggcg gactcgttcc   900

gtaaattcaa taccgttcca aagttccttt ccctcatgag atgtagactg gcgaggcacg   960

ccaatctgtt cgacgacgaa acttgcagca acggtggcga gaattagagc gggtggaatg 1020

ctgtgatact ttccgcagct tgcgggtgct ttttgccagt ttgcggactc cgcaagaatc 1080

gaactgataa ctctagtcgc atctctaccc tcgctcacca tcccctgcgc tagcgcgcct 1140

aagaaggagt ttccagctcc cgttggatca acgacgggtg agcttcctga ggcagtcggc 1200

tgatgataag cgggtaacca gagccttaga cctcgagaat aagcgtaact gccatccttc 1260

11742

```
cctgctcgga taaccaagta cccttcaccc cgagatccga tccctgaatc aagaatctgg   1320

ttcactgttt ccttgccttc agcgcttcct tcattccagc acgggtgtcc gaacatcatg   1380

cctagctcta agtcattagg gcttacaacg tcaacctcac ggcacgcctc caagaacttc   1440

agctgttcct caggcgtgca catatctggt acaggttccc agacaaagat tggcctctcg   1500

ttggacccac cggccagggc ctcccgacgt tgaagaatgt gccgcactat ggatacgcaa   1560

cgagacgagg aacaaaccat atgaaacgtt tttgacagca cttgggagtc cgaaagcatg   1620

tatggctcta gtcgtagctt tggggtcaag tatttaaagg ctatcttcat taatttgccg   1680

gtagcacatc gcggagcatc tgggcactca ccccgtttct cattcggtcc gtaaccattc   1740

catgccctgg tggtgagtct tccggggtcc ctcctgatca cgcagttcgt atcccatgcc   1800

gtaattacat ccaggacttc tggtggaaag tctgagccaa cgtcgacaat ccaactgacc   1860

gacctggagt actctttccc cgctgccaga cgggcgccga tgaccgcaaa cgaagccgca   1920

ccaccaagaa catttttgac gctgggtcgg gaaccctcga agtcgatatc atctgttatt   1980

gtacccgatt ggaggtaagc gattgtgctg tagttatcca gcagctaggt gcgcgtaccg   2040

agaataaaca tgcccagagt acaaaactcg actctggaca ttttttccctc tcccgcaatg   2100

ctactttctc gggacatgtt gagtcaagca gcgttcaatc actgattaaa cgtagcggaa   2160

gctagctttt ggcgatgttt tatcttcgac tcttatcgcg aaacatgcag gaacataatt   2220

actgtatgat acatacaacg tcatcggagc tggcgtctgg cctaattaat ctagtgtata   2280

atgagtaatg tacggtaaga cccactgcgg cctcagcaga ggctcaggag tagtgtatcc   2340

ccgttgtcag ttgatcatcg acaccgtagc aacaattgtt cttactcctt caccatttgc   2400

ccttccttct gaagacactg ctccctatct gctattcggc cgggcaccga gataattgac   2460

tcacgtctcg atccggtcta ataggcctac tttttattta tttcagcccc tagctccgtt   2520

gcccgcagcc tctgctgccc agaaagccga caagatggcg gcaaccagcc atatgcataa   2580

cttgacgacc ctcatcaagc ggtacgacct tgcttcgacc ttctatttct catatattcc   2640

tgcaaacagc aatgtcttca attcgaaccc ttcatcttcc caagactaat gacatgcata   2700

tatgtacaga ctagaagccg cgacttcccg cctggaggac atggcgatgt cgttagatga   2760

acacgatgcc cagaagaaga ccgctgacaa ctcggccgcg ctggagccgc aagcctctga   2820

gcgacctaca ccaaccgccc ctgccgcccc cgcagctgct cctcttccac cccagatcga   2880
```

11743

```
agacttcgat acattgatta gcaaggacgt tgggaatttc gtgcaactgg gacagaagat    2940

tggaggtctc gtcgcagagc aggtatgatg ccaggtgtca taatagttgc tgaatgcctt    3000

gctcatttgt ttttaagtcc aacgctgtcc ttgaagcctt caaggcggag cgcacttacc    3060

tctatgtctc gaccaaggcg aagaagccag aaatccagcc tccggagctt atgaccggac    3120

tccacacggc atccgatgcc atcaacaatc ttcgggagtc taacagggca tcgcctctta    3180

ttgaccatct gagtgccgtt gccgaaggta tcgttgccct gggctggttt tttgatccca    3240

aacctgccga tttcgtcagc gagatgctcg gaggtattca gtactacggt aacaaggtgc    3300

tgaaggaata caaagagaag tatgcgtttt gcaccggagg tcatgttgca ccgtggttta    3360

ctgacagact tgcagggatc gtacccatta tgactacatc caagcgtact accaaatctt    3420

caaatctctt tcatcctacc ttcgcaagca ttacccaaag ggcctgacat ggaatgacaa    3480

ggatggaata gatgcacagg aggcactcag acaggtcaaa aacagctccg actctgctgc    3540

tggcggtgca ggaactcccc ctccgcctcc tccagtgccg actttgaata tacctggtgg    3600

tggcgcgcca ccaccaccac cacccccctcc tcctcccccc atgatctccg aacagcagag    3660

ttctggcgcc tcatctgata tgtcggctgt gttcgctcag ctgaaccagg gagacgctgt    3720

cacacaaggc ctgcgcaagg ttgacaagtc ccagatgacg cacaaaaacc caagcctccg    3780

agctagctct accgttcctg gaagccctag ctctagttcc cgctccaagt ctccagcccc    3840

tagcaaaaaa ccaaagccag agagcatgcg tagccggaaa ccgccccgca aggatctcga    3900

aggcaccaag tggttcatcg agaacttcga taacccggga gacattgtcg aaatccccgc    3960

caagcagaac caatcaatcc tcatttctcg atgcaacaag actatcatca aagtgtccag    4020

caaggccaat gcgattgcca tcgataattg ccatggcttg tccattatcg tcgactcgct    4080

cgttagcagc cttgatgttg tcaagtgctc caagttcgct cttcaaattg acggcgttgc    4140

tcctacactg cttatggacc aggtcgatgg cgcaactgtt tatctgtcgt cccagagcct    4200

aggtacggag ctcttctcta gcaaatgcac cgctgtcaat gtgatgcttc ctccaaagga    4260

aggcaccgat gaagatacaa aggaatgtcc ggtcccggag cagataaaga cctccgtcaa    4320

ggatggtgtt cttgtcagcg aaattgtcga gcatgcgggc tgaaaacaca ggcgttaact    4380

ttgggcctgt cctatgaaat atcatgtatc tagaaaaggt agggattgag agtttgctcg    4440

gcgccttgat attgactccc gcaatcttcg agcaatcgtt ctccattgta gatagatggc    4500
```

11744

```
catagtatac acaatcttac tactctaaaa gaccatcggt aatttagtat cgtctattct  4560

ttgagctaaa ttggaagcac catgctatgc aaatatacat aaacgtaaga agaaataata  4620

accattatac agcgggtatc atgcttgcaa gctcgatctc tttttgcttc agactgtctg  4680

ttttcatgcg gtctccccca ccatcctttg gattcggcta agcaacacct tactctccct  4740

ccccaacctt ctcttcccat tctgatccgg tcgctttgct cgagccatcg cctctctatc  4800

cttggctcta agctctcgca gctccctctt cttctcagcc gcttgcctcc tcttctctgc  4860

aatctccagt tcttttgcga acgcaccccg ctttggtttt tggattcttc gatctcctgg  4920

tttcctatcc gcctgctcag gttccgcatc gcgagtattc agcatagcct ggcgctccgg  4980

gtggagctcc aggcttgccg ggggctccgt agtctgctcg ttgtttccct catgtccttc  5040

ttgttcacgt tgaagatagt tcggcttcgg ttggggcgca gcgagctcgg cggcttttat  5100

ttttgcatag gccttcttga ccttagcttt ctgaatgagg tcggctttga ttttttgagc  5160

taacgtagaa agtcagcatc tctatgctag tatgaggcaa cgagtaatag ttgaggataa  5220

gtacttttac gacgataagt tccgtcaggc aggtttgcag ggccgacgga gaaacctttg  5280

cgcttcttat tggcttggcc gtctgtttgc ggattttttgc taggggacgt gccatcgaca  5340

gatcgttttg atgtcatttt gacaagatcc tccgacactt tttaaacgag tgttcagttt  5400

gtttaatggg tgttggtata atgtgctaga cctggggaaa atcttcatcg ataagaaaag  5460

tcgcgaccgg ctatcagtga tgctccaatt gccaccattt ctaattcgga ctagtgcata  5520

ttcctagtct tgtcaactgg gagcttggtc ttaaaacatc catgtttggg cacgggcata  5580

atgagagtct ttgcacctga atccttcaaa tcatggcaca tttaatacgg gaacatactc  5640

acaacgaccc gaatcattgt cggtggcttg aggacatcgc aacaagttac cgcgtttgag  5700

gatcttacag gacttgcggt cagaatgacc gtattcttcg gacgccgaac gtttcaaccg  5760

aaacgaaatc gtgtttgcaa aggcgacatg gtctatgcta ttttaaagtg tgaaattcgt  5820

cgtgataagg actaaccaac tggctgttaa ctatttgacg acccctgcac tctgaaacct  5880

gccctagttc atggatgcgc ttgtcaaggt acttcggaca gtcaactgac cagcacatcg  5940

gtcctgcctc ctatcttctg aggggtagag gtatttggtt cccagtcatg gtcttaaccc  6000

caaaggtggg caccatctta cagcagtagg atgaagagcc aacgtttatt gtcgcccgcg  6060

ataagcgtac tatatccacc atactagggg gcctcgctcc tcgccaacaa gaaaatagag  6120
```

11745

```
ttctcaccga cggtaaaagc atcaaggaca tatcaaccta ctaggttgta cgatagccaa  6180

gtaggactaa aatgacaaaa tagtactcaa actatgacgc tatctgcacc gtttctggcc  6240

ggactagcac ccatcctaca gcgggaacgt gagggatgcg agtggggaag gcaatgactc  6300

tgatggccaa agccgctttg ctccgcccat ttaatgttca tgcctcacct ctctttgttc  6360

caggtagatg agaagtcttc agtctctcga cacttcctca gtgctacgtc tgggtcccct  6420

caccgttaga gtcttatact gtcgttattc ttccgcagtt gaccttcttt tctccgtctt  6480

tatctacgcc agtcctcgcc gccaccgccg agtacatcct cccgacctcc gtgtatagcg  6540

gatcactcca ctcaccccat cgcctcatca gacaacattt cctgcctcac tcagtctcag  6600

gctctcccgc tgcgatggtg gttctcttta tgagactctc ctgcctcctc attccccgct  6660

gacaatgccc atctttcaag attccgaaag ccggcagttc tacgacctct ggtctgatga  6720

cccgcgaatg actcaggacg actctcacct caaacccagc tggccggatt cccatgatgt  6780

ttacgcagga tcatcagatc agaggaccag cgtcttctac ggacgtcatc caagaagccc  6840

cagcccgacg agactgaatg cgcatgatcg agaggaattg atacattata taaaagctgc  6900

ggaaactaca aaatggtcgc agtattgctc ggtcagttca cccgcaagac ttttgaactt  6960

actctgtgct tcctattctc tgtctagcga gcccgcgtgt ttctcgatgg ttcatgctaa  7020

cgtcagttct tgtatagtta ggagaccggg ttggtcacca cgtgcttcat tctcacgagg  7080

ttccggtgac gagggaacag agtaccggaa acagcctata tcaagatttc cgggaccacg  7140

attcggagct tgcgtcacca gcggaaatag agcgtcctcg ttcggccctc cactccggcg  7200

actttcggga gggaacgcct caactagagc ggcagcagca ttcaccgcaa tcaccaatac  7260

ctgaccgggg cattaacaat gggctaccct tcttctcctc gtctcctaca tctccgtggt  7320

tcgccgctcc ctcctttccg ccgcgcaccc aaacggcccc gctacaagca ctcgaagcga  7380

gagtaaccga ggcgaatcgt acacctgcgc cgtcgcttgc ccgttctca tccagctatg  7440

tcctgaaggc gccgacaagc cctctagtcc atcaggcgaa taacacagac ttggacttct  7500

ctactcggac agattccaat aatcgactaa ccttgtttga caagacgaac cgtcggcgga  7560

cccttccgcc ggactcattc agagacctgc agacagactc tgcagattcc ggggcgaatt  7620

gtccgatacg ctgggactcc ttgtccagca actcacagtg ctctcgtcgg tctttggctt  7680

cctcgtacag ccttcagctt gcctcatcag ttcagggcca ttatacgaag tctcggaggc  7740
```

11746

```
cgtcgatatc ggccgagttg atttccagga ctcatgcccc gatggttggg tcgtatgagg  7800

agtctatcct ccgtgggagg atgtcaactt gcccgtccaa acccctggat ttcaccgcac  7860

aaattggtgt tttgggcaag ggcaagacca agggaagcct caaatgtcct ccgcacgtta  7920

cggttcggtt ccctgcggtc ttctacagct accctacgtc tggaaatggg cgcacgatct  7980

ctgatgatag tcccagccct tatgtgggaa tgatcgacct tgagaactcg ctgccgaagg  8040

atacttcgtg ccacagtcgg cgccgtaggc gccatcaaga tccagtcgag atttcaagct  8100

ctcacaataa tgacgaatcg atgcggacca agcacaatga tcgggaagct atacgccgaa  8160

gagataagag gcacagaagg gcagagtccc cgaaagctcc tgcaggtggt tgctatcgga  8220

tcccgcagca gggccaattg caggtcatga tcaagaaccc gaacaagact gccgttaagc  8280

tattccttgt tccgtacgat ttgagcgata tggaacccgg gacaaagaca ttcatccgac  8340

aaaggagtta ctcggctggt ccgattatag acatgccatt gtctgctcga tcaaattacg  8400

gtactgatcg tcctgaggca tcgttgacga actccgacga cccgaatgaa aaaccggtct  8460

tgcgatattt aatccatctc aatatttgtt gcccatcaag aggccgttac tatcttcact  8520

ctagcatccg tgttgtattc gctaaccggg tgcccgatgg caaagagaag cttcgaaatg  8580

agattcagca ccccgaacca cgttattcac catacaaacc gtctcgtgag cctacctcgc  8640

tacgcgtaag tacaaaattc agcgcagaca aaggtgaaca gagaccgtca cctcggcccc  8700

caagctatcg tgcaactgat gattgcccac ctcacccgtt ccggcctatc ccctcgatcc  8760

gcgctgatgt cgtcggactc gagaatctgg tcccagctca aacatcctct cctggaccgg  8820

agctttacaa taaacttggc agaggggatg cagaatatgg cgggtatcaa gtaggatcca  8880

ttgcgagccc tgaaggcgaa agcctgctag ccaggaagct tcgagggctc gatgttcaaa  8940

agtcagactc ttcttgagag gcatctatcg taaagaaatc atcagaccag cttgcctcct  9000

gatcgaaagc ctccctccgg agttaacccg gtaaatctcg gcctgtcgct gctgcttaac  9060

ttcgcttgga cagaactgta acaaacaac tatttattgt tgagccagac taacatatga  9120

tccaaaggtt cgctatgcgg gtcgcacaac gcaacatgtt ctcctcagtt tagtgcctat  9180

atggcacagt cgagattgaa tcaggcattt attactgtct gtactcgttc ttggagccgt  9240

ctcactcgtg ttgtaagggt ttcggattat tcaattcctg atagttacac atcactgttt  9300

cgttgtttca ataggtagtc ggcctatgaa gtacatatat attggatagg tacaaccatt  9360
```

11747

```
agagcagtgc ttaagggata aattttgcac ccgttacgtt gaataatatg acttatggat   9420

atcatatagc ctaaactgct ggggaatcaa gacttacgcg gcgccgcttt tctgcgaagt   9480

tccacttctg ggcttcctaa agcaggcaaa ctcacccttc gtccgttctc tcagacgctt   9540

caggataccc ctcatttcac ctaactcaga ctggagacgc gcccttgcct catgtgtagt   9600

cctctgatcc aactccacat aaatctggct ctgaacagcc gaggcttcct cggacgaata   9660

ctgagacatc gtctgcgcga tgaactcagt gtcgagagta gcttggatca acgcgttaag   9720

ggaatacgaa gcccgtaggt tgaaggcgtt cacaagggca gtgcaaactt gtgtcaagag   9780

atgtgttagg acgattgtga ggaggggcga ttggccggaa gctgatgaag cggcagaccg   9840

gcttgaagtg gaagatgatg ttgaggggat ggttgttgag atttcggtgt gaacgaggac   9900

gagagcgagc aatgcgttgt acacgtatgg ccggacttgt tcggggcggg atgttgtagg   9960

ttcccaggtt ggcgatgtga cgccttcggt gattatggtc tttaggttgg tgattgttgg  10020

ttccgtgtat gatcggaata gccgctgctc gacctcgtcg agaacttgcc tgatgagctt  10080

ggcttcgtcg gttaacgtta ctgagaacga ggcttcgaag ttggcgataa gttggggaac  10140

taggtccatt tggaa                                                    10155
```

<210>   5754
<211>   2676
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations
<400>   5754

```
agtagagaaa aaagatatat aaagtggaaa gaacagagag atgtggagag taaaacaaag     60

aaaacacgag tatgagtaag attagttatg aggaggatag agataaacac cattagggca    120

taaagtggag cgcgagaaat gaaggttgta aacaaaaaga cctcggcggt ggaaggaaga    180

cttgtcaaaa aagaacagta ttagaagtat agattttggg gaagaaagca gtccgggggg    240

gaccccttccg gggcagctct ttatagcgtg gcaagctaag ggcagaatcg taggctttac    300

cacaatgaag ggcaagtttt gaatccttac gaagggccag ttagaggcca agggcgaaaa    360

acgcactgtt gccaccggac gttattccag tcgttgttag ccccctggag gcccagatac    420

ttgaaaatca atggccagta gccctgttta aataaaatgg actgcccgta caaggccccg    480
```

11748

```
gccggccggc gcccctctgg acggctcgag aaggcccaag ataccttttcg aagcatctac  540

aatgattttc ttcgcttgtt gagcttctca gcaagactcg aagagccggt cgacgaactg  600

gagatggtgc agatcgttga acaggtaatg gcacgcaaac agcaggtgca gacggatctc  660

gacgcctggt cgctcgagtt cgaccatttc ctcgcccaca tcttccattg gggcaaccag  720

gcgtcgcagc aatcggtccg aatgctccag ctctggcgca ccatgctgac catggtgctg  780

cacatggggt ggcctcccca agacactgct tgggggagtc gcataaaata actcacgctc  840

actcttgatc caagcgccca tattctcagg atctatgaac ctctggaact agacatgtac  900

atcggagcgc ccttcagggt ccatggaggc ctcgtcgcgc ccagcatgcc cgctttcagg  960

tttcggcatt tcgcataccg ttcacgtgct ggatcgcgct cgcgatgacg ctccaacgcc 1020

aactgcgacg ggtgcaacga cagctgcata tcgagtcagt gggggacctg acctgcaaga 1080

caactacatc cgaagacgtt acggtccatg acactcatca gcctcacgat ttaccttggc 1140

cctcgggatc ctcccagccc tttggacaat cggaacccaa tgccgcgact ctagcggacg 1200

ctacacgccc tatagacctg atcggacgca gcaagcgccg cgaaggcgtc tgggactcag 1260

acctgcactt tcgtttggca ctgcagcttg ctcgccatga agagcaagcg gcggggctgg 1320

acgccggcgc ggagtacacc cacgcacgta tcccgcctga ggcgcgggtg acgctaaatg 1380

gaagattcga tgagggacgg aaggctaaga ttagctatat tcgagagaat gttagggtcg 1440

gggaggagat ttttcactgg taacttagta caagaacaaa agaataatag gatttttttgt 1500

gctctcccgc aggagtgaga aataaaaaag gggtccttgc gctgagcctc ggttcggagt 1560

ggtcggtacc gcaggctatc acaacactgt aatcctcaaa atgtagttaa gccccaatac 1620

tactgcgagg gaaatataga ttaatgttta ctgttacagg cgacccgcta tttcacccgg 1680

cagatcaggc catcggtcag atcatgacca ctggtccagt tgggagtatg attgctttgg 1740

cacgtgctct tagtagactg gttaaatctt acttgcgaac gcgccaagac atagtttgat 1800

tgtacttatc agcgcatacc acgtttttagg gtacagcagg ctccttaaga ttgttatggg 1860

atgctcccat aacacgcacc gcgtagcgta cgcggctgtg gtcacgtggc tccacatcca 1920

ttcccaatct ctgatctgtc ctgtcccgct ttctcttctt cagcgattcc ttcatgtaca 1980

tacggcacgc ttagatagga agatccgtct atatacgtcc cttaacaaag atctatataa 2040

cctgccaatt tagattctta ggttatatgg tcatttcagt tacatgtcaa ttctaaactt 2100
```

11749

tcagttcctg tgctttata tattttcgga cttaggcctg atcgcaaggt aaaaatattt 2160

aaaaagagag accgcagctg tccacttgct tccttgcatg cggccagtac ctaatgttac 2220

caaacatcac ttcgtcataa ttatctacgg aaatttgggc agttcctctt cagcctggcg 2280

ctggagtctg ccggccgact gatcagcang tcttctacca taacgcccag attaacatac 2340

tatacgaact ttaccctctg acttcaccgc agtcacgtgt gatccactaa atgtggaaag 2400

ggatggacga ttgtcattat tggatggcca acgtggccgc ctatctatac ctagcttact 2460

aaatgatgac taagcgagct cgacccctag gggcaggcgg tgcataggac agtatgcccc 2520

gacatctgtc ggcgatactg tcctatggca tcgcctgccc ccatctcacg acgaggggaa 2580

aacagcaccc tttactgctc taataactaa tctcttacac ttggctcatt gctcatcccc 2640

tcctccccat ggaggtggat atctcccccc aggcgg   2676

<210>   5755
<211>   8276
<212>   DNA
<213>   Aspergillus nidulans

<400>   5755

gcaggaagta gtaggttttg ccggcgcttg aggcaacggg caacccagca caaaatgagg   60

tgagctcttg tgttccttct cggatacaag aataagatga gcgaaatgtg atgagaaaca   120

agagcgcttg tggtaatcga agtaaagcat tgccttgaga gcactctttc taccttggac   180

cgagtttggc gagcgcgcgt gctccttgtt cctcccactc ttgcttggta acccacatgt   240

cttccttgtc tgcgatctgt ttcatgatac ggtaagtaaa gggatgagct cggcagtaga   300

aagggaacca tgaacgtacc agattggcga gcacagctcc tcctaaaaat accatgtgcc   360

tccgtcgggg tgggtcctcg atgcggactt tgaatttctg ttgtgtcgag tcagcacgag   420

cttagatgac tgagcagtta gtgtgataga tgacgtacgc tcagccgttc tggatcgcct   480

ttgagtactc gtgtcaacca cagctgcttc aattccttct ccagccgtgt cggtagacca   540

gggtacatgc tgctccctcc gctgagcacg atggctttat atagactaga gcggacgtcg   600

acatcggtgc cttggatggt gttgaaaagc aactcagcca taccaggctg gtcaacatcc   660

accaggtgcg gctggaaaag acattcaggg gcttcaaacc gctcgctacc gactcggatg   720

acacggccgt ctgggagagt gtaggattca actaatacag tggtctcctc ggagagtttc   780

```
ctatcgagtt cgaggtcgca ggacacatag gcgagcttct ccttcatctg gcgcacggtc  840

tcgaagtcgg ctgtacggtt cagcgcataa ccgcggcgga gtagcagcgc gatgaggttc  900

cgagtgacat cacgacctgc gacgtccagt cggcggatgt ggtgatttag aacggtagat  960

tcataaacag gaatgatgtg gtgacaccgt caccagagtc cacgacaact ccgctgctga  1020

gacctagagt ccgccagatc agcaactgag taattttcgg ttgcctctgc actgaccttg  1080

agcatatagt gcaaggaccg cttggatagc aacatatact ccgccgaagt tatagtgttc  1140

cagcatgatc tccgccatct gttcgcggtt cttcagcggg ttcataggcg gctcagtgag  1200

gaggatcttg cggccggtag gatctatctt catcttatcg tagaaagtgt agttccatag  1260

atgttgcatg tcatcccatt tcttgacgat accattttcc atctacatag cggtcatagg  1320

aatcagcccc agagtgtaaa cacactacca ttgggaatct ggggagcgga actcgcgagc  1380

attccatggc gaggtgtaga acgagcggga tgtggacata cagggtagct gatctggagc  1440

atcgatctgg cggcagcggc ttcatctccg cacatgatat ccttgacaac aatatcgcca  1500

gcctgttcct ccgttcgcaa gatgggccgc cccactatcg aagggaactg gtgctcgggg  1560

aagttctgta aaataagagt aaagtcatta cggagcccta gactgagaag agaaactcga  1620

ggacttgaca gacgtacctg cgcagcatat ccgactttga ggaaacccgt tcctccgtcg  1680

agcactgcga gctgttagtg acgctgcttg gacaggcat acatagcagt agaaacaggg  1740

gtcagagctt accaatgggc atgttcgcca tgatgaatat aggaactgct aagttgaaga  1800

tatgtcaatc aattcgagag agagagacaa aagagatcat gaatatgagg tccagccgtg  1860

gggagagctg gtgattatga ggggagggga gagcaagttg gcggtgccgc tgcttgctgc  1920

tgactgacga cgtttatgcc ttgttgcctc aggcactatt aaccaggcag ccccaacctc  1980

attagtttac gttttcgttc tggaagacaa attttgctct cgaagttgaa gggattaaga  2040

gctaaattga gatttacgtt aaagtgatcg gactggacat ctggttctgt ttctcgaccg  2100

agaccggagc cgcttatcga taccatataa gtccgagcta tttaaccaag gtacaaagta  2160

tatctccaac agcacttctt cgcgtgactt tacactgcac ctgaactcat tctcttatac  2220

catagagcac aatgagtcga atcggctggg taagtaatta ctggaaaaga gcatagccca  2280

tattaacccc tataacagta tggcctcggc tcaatgggcc tcgcaatggc cacaaacctc  2340

caaaaacacc tagctaccaa gagcacgctg aacagcctcc tctattccaa tcggacaatg  2400
```

11751

tcccgcggcg aatccctcaa ggcactaggc gccaagccgg agacgaactt ctccaagctt 2460

gtctcgcaat gcggcattat cttcactatg gtatctccta tccaactact ctgttctttt 2520

tttcttgtat accatgcgga tagactaaca aagacaaggt ttccaatgat gacgtcctgc 2580

gaagtctcat ctccagcgtc acagaagacc caacccagtc tctcaaggat aagatcttcg 2640

ttgactgctc gaccgtccac ccgcagacag tgggccttac agtcgcaaag ttgaaggaga 2700

agcaagccga tttcctagca gctcctgtat tcggcggtaa ccctatcgcc gtagatggaa 2760

agctagtatt tgccattgca ggcccgaaac gtgcttctga cattgttaag ccgctgattc 2820

aggatataat ggggcggaag gtgatcgact gtggagagga tgctacgaag tcttccatgc 2880

tgaagatagc ggggtgagta taccttcgcc atttagatac caaatagatg cgaaatccac 2940

tcgctaaccg cgttgcgcgc cctgggctta atagcaacat aataactatc aaccttatgg 3000

aggctgtcgg cgaggcccag gtctttgctg agcgtacagg tctcggatca gatgttatgg 3060

agaaactcat cggggaggct tttggtccgg ttgctggagg gtattcgaag cggtacagcc 3120

tctacctgac tcctaatatt acggcataga gctattgtac tgtactgacg ctttacccag 3180

tctcactacc ggagcctacg caccaccact cgactcccgt cctggatttg gcgtctccct 3240

cgccattaaa gatgcgaagc atgcatttga tatcgcgaag gagaacaatg tcaaacttcc 3300

tggcttggag gtcgctacga agaatatggt ttctgctcgt gaatacgccg gccaatgtct 3360

agacagtagt tctatgtatg gcgtcttgcg gcagaaggca gggatggagt tttggaacga 3420

aaaaagtagg aaaggttgaa tgttgtacaa ttaaggactt tgtgcgctgc atagacgact 3480

atatatatgg gacattttaa gtgttagaac attcgcattc acagagcata cagttgtgat 3540

tcttgaatta tgtctgatgt gttatgggta tggtcttcat cccttgtatt atcctatcca 3600

gtaccattta taagccccgt ggaatctttg accaatgttt caacgccgca aaaaggatg 3660

cccgtcacct ccgctttgca cagtatatta aatccattca agccagctgt catgttgacc 3720

aggatccgaa tatgaaaaat cagatccatg acaaaacgtt gccgcttata ttttgtaaag 3780

tgtagataca gttgaaggaa gacaagctaa ttatgcaggc tttatcttgg tagtttcgac 3840

cagttgcgga aatgcctccg cgaacgctgg tccaagagtc cagttattaa tatccgcaaa 3900

gtgtctctca aaaactgggt tgatgatcag ttcgtcagtt cgccagtgg agagaagaca 3960

gtccgtgggc tcataaggcc aattaacaga gagagttctt gtaaagggaa tgaaccagtt 4020

```
atcaaatggg tactcatggt atgacatgac aagccgatca cgcatccgtg gccagggaag 4080

ataatcgatc catgcaggat gcggcgtgag cagttgcgat ggacgaggag tcagccagtc 4140

cggtagccgg tgatagtttt cagctgtcgg atatatttgc caccgcatga ggaggaacat 4200

ggaataaagt acagcaactt gttcggggag tgaggagata tctggaaatg tacggaggat 4260

atccgtgaat actttcgaga gaggatgaga gtagacactc ttctctgggt tgagcaagga 4320

ggagacgctc ggataggctg gcccaacgag tttctgcttc ggaacccctt ttgcggcctc 4380

cctttgccgg ttgtggagga aatcgagcag aatcgcatct aaagtacagg ttggcgcgat 4440

attccggact ggagtcatgt aggctggcag tggctggtct gtcacggtgc caactggtgg 4500

aagaggagta ctgtaagccg acgaaatgct cgattgagat ctagtaacct ctgaaggacg 4560

ccgaaagcct tccatcttgg gtacttgttg cgaaggttca agtaagaagc cgaaacccat 4620

tctttcgtca cccccgaaat cgagaccatg aagcaagttg tgtcgttggt aatcgaatgc 4680

gagccgcaaa gacgcattat tccccgctgc actgtcgcgc cgggagccca gtgtcggcgc 4740

cgaatgagtt gacgaaggtg tctctacgct tgcgacggac tcggtatagg agcgatctac 4800

tgtcgcagac ctgtgaggat ttggcggcaa agtatggacc tctagaggtg gagatgctga 4860

gggtataagt ggcacagtcg gcctagccgt ggtaggagct gttaccggag gcactaaagc 4920

gtgacgttag ttattggtat aaaagcccca gaactccaa agaaagcaaa gcagacacaa 4980

tcaactcact tattgaatcc tgctttccta gcagtggttg aatagtgtct acgattgctc 5040

tcagccctcg ccgaagctcc ctattctcgg caagaatagc ttcattttgc ttcagcgcag 5100

cctgaagatc taggaaaggt ttttgcgaag aaagctcgcg aacccgttgc tccagatttt 5160

caatatgtgt cttcgttctc tctctgattg cccgttgagc ttggcgatcg tttgcccgct 5220

tcttagcaag ctggtcgggc gtgaggttag caaccccgcg ggcggaggta ctgttgagct 5280

tgcgttttcg gcccgcggcg gcatttccca ccgggctggg gctattgttg gaattaccga 5340

cagcagggtt ggagcataga gcatcagctg aggtcgatgt taccgcaacg ggagtaggag 5400

agtcctccag cttcacgggt cctgagtcat tcgcagctgt cgcattggtg gtcgggggggc 5460

gttggatgac aggcagcgag gaagacgaga gttctagagc cgacgagggc gccacatcag 5520

aaaggggagg caggcgggtg gccattgcct actcgcggca agatatcgaa ttgtaattgc 5580

cattcaagtt tgcagcacga gggtaaggaa gaggctgagg gtggacgcgg atggcccacg 5640
```

11753

```
ggcgggatct ccttgatcag cggaagaagc ttagcggcat tggggagctt gattcaaaat 5700

agaagatcaa gagacaatga cgagcaagat caggaaagac tcaggtcgag atgatatgag 5760

agcattaaaa taagagctcg gattgatgat ggcctattgc ttgcaacaga aaaggatgac 5820

gaattggcga taggtaccgg cccggagggg tgggcaagat aatgtggtcc ttgccccggc 5880

ttggacgtct caattcatat gtaatatgca accaaccgat tgagtccaat ttcgtctaga 5940

ctgcagtcct ggataggtat attccagatt atgtcctaga ggaaaactgc catgactact 6000

aggtggtgct atcattgtgt tttaaaatgc aatctagtat accaaagaca ccatacttca 6060

cataaaaacc ccaagaactc caagcataga ttatttattt tcgcttgcga gtacaaaaag 6120

tacgaaacat ttggggctca atcaatcctg ggtcatggca gtgggctgat atgccaattc 6180

gtctctcaga aaaaaaaaaa aaaataaga aacaaaatag tcgccaaaac caatcagagc 6240

ccgaatgaat agacaatatc gctgtgtcat gtacaagggg aatcatctcc atcgtatctt 6300

tatgttgtat cattccataa tgcccaacca aaggccgaga agagaaagaa tagacaatct 6360

agggtctaat cattgaatca tatggcccat attagaaatc tgtgtccaag aagtcagagt 6420

cagctcagtc ttcaatgttt caacaggtag ctagccgttc aagatatatg taaacttgcc 6480

tttgttcgta aatagccttc gacttccgag ctcttaatgc ccatcttacc gccagtctgc 6540

cacgccaaag gcaccatcgg aacacgatcc ttaacaatta cctcacgccc aggtccttca 6600

attgctctaa ctttatcggg attgtttgta agtaggcgaa tcccgtgcgg attcgcatct 6660

ttgcccaaac ccagatcaac aagcatcgct gtagcgagtc catagcttcg agcatcggcg 6720

ggatgtcgca gcaaaaggtt ggcttcaaca gtatcagagc ccaaatcttg aaggttgtac 6780

gctttcagtt tctcccccaa acctatacct cggccttctt gacgaaggta gataatgaca 6840

ccaccagata catttgacgg cacagatcga gactgctggg aagctatctc gttcagtgtt 6900

tccatgggca gcgacattag cctagctgcc tcgtcgagct gctctccaca atcacaccga 6960

gccgaccaag ctgtctcccc cgtatagcac tcggaatgga tccgtactag tggggcttcg 7020

ttcagtcgtt cctgcataga ttctgtattg tgcacagcac ccccctcaga tccttcaatt 7080

gacctatctg tagcactccc ctgagtcgaa tcatgccaac tgctcacgcg tccaggatgc 7140

agtttgccaa tataagctcc acgaatcatt cgatccattt ccgtttctcc tggtttcacc 7200

ctgtcaagac ttcggctccg aatggtgttc ccaaacacaa tagcaagatg ttctttgttg 7260
```

```
tctatgtcat tatggtacag gtgtagaaac atctcagcgc cggtcgttgt gggaatgcgg 7320

gcgcggacaa tgcactccac gttggggagg cgagggagga gctttggagg ttttgcatgg 7380

gagacaggtt gtggcgagat ttgttgaagt aaccgttctg tgttcaatgt gccgcccggt 7440

gtggctgggg gtgtgaatga aggagaaaga agcgaagcag gcacaccagg tgtcaaatcg 7500

ccgggcgtgc tacccatggc accgacttcg ggaaggtttc ccaacgtgaa ttcattcggt 7560

tgaacactcg tagacgatgt ttgctgttct gatgtgagtg atatgtcgtc gactggcggt 7620

gcgatcgagg ctgactgcgc gccaaaattt ggagaggcat gagacggtaa attcgccatc 7680

gtgatgtgag gattctagag cgatatacaa ccgaattcca ccaacgctgg atcagtgcgc 7740

atatcaagcc tagttccagt aattgaataa agggagatcg ggctcggaca gcaatagaat 7800

gcagccgact taacttgcat tgacttgcaa atggttttgt tatcaggcaa gctgtcgtcg 7860

gaccgaatgg tggatttaga gccgcgggat gtacggcggg atcgggcggg gagcgctgag 7920

tcagcactgg atgacaacag cttaacgtgg ttggtaagcg agctgcgcat gtaagcgagc 7980

tgcgcaccca accacttttt tacatgctga cgcggtcatc tatcttccaa cagccaccat 8040

gccccgagtt cgcgttagtt caagccaaaa ttgccatgag aaggaaggtc ggctcctact 8100

ggctgtacag gctattaaaa aaaggagat tacatcaata cgcgaggcag cacgtcgctt 8160

caatgtgcct gaatctacac tacgtacgcg actacgcggg actacaaatc gcgccgaatc 8220

tcgcgcaaat ggccataaat tgactgagat tgaagaggaa gtgcttaagc agtgga      8276


<210>      5756
<211>      6444
<212>      DNA
<213>      Aspergillus nidulans

<400>      5756

ccacctaccc acgatatcag ctgttcagtc cccctacccg atggactgta tttcccagaa   60

ctctaacata tatacaaagg gatcttccag cccattccct cctggaacct atctctccag   120

acattactat aatctacaca gcaggcctta ctattattaa tgtctatcag cctcctaatg   180

acccagttgc ccctgctagt gctggctcaa caccctctat actttctata cttctaggat   240

atactctgcc agagaatact atcctagcag gagactttaa tacccggcac ctattctggc   300

agctagatac taagtctcat gctgtcatac ctggtacaac aggactatta gactggctta   360
```

```
atgcccacga gctggaactt tgcctcaagc caggcacccc cacctgtgga ccaaacaccc 420

tagaccttgt cttctctaac ctaccactaa gggccctagt ggaagaccat ctgaagactc 480

taagtgacca tgtaataatt agattaatac tggaacagga agagcccctg cctatataca 540

agcttggctc tactaactag gagaaagcca gagcactagc aagcctgcct gacccaaccc 600

tactaattga cctactagct gagcaactgg tctagatatc ccaacttgta atataaggta 660

tattaagata taatacttgc agactcccca ggaccccatg gtagactcca gaactaacag 720

tcatactata ctaaacaaga cagcaacaaa accctgacta taaacagctc tggaaggcta 780

ttgtacaggc aaaggctgaa tactggaagc agcagattaa acaagccaca gcacctacag 840

atgcatttaa acttgctaag tagattagac atccagacca gcttgctgcc cctcccctaa 900

atatacaagg ggctcaggtt actaccccac agggcaaagc aaacgccttc cttagtcacc 960

tcctagagaa ggggcccctg cttccaaatc agatagaaga gggaccccct aataagcccc 1020

taggcccccct gcacctgcca ataaaagagc actactaggc tgccctctgt gccctacccc 1080

cctctacccc tggggaggat gggcttgcta ctactgctta gagggagctc tggcctgtcc 1140

taggagatat aatcacacaa ctatactaca ggtatataga ggaaggctgc tttctactga 1200

gcctaaagtc agcaaagata ataatattac caaaaccagg gaagagggac tatacccaac 1260

tcaatgcctg gcagctaatt agcctcctct ctaccctagg caaaggccta gagcgcctcc 1320

tagcacagca gatagctgta agagtaattt aggcagatat actagccccc tgctactttg 1380

gggccctgcc aggatgctct gctattgacc tggtccaggt tcttgttcat agggtagagg 1440

aggccttcta acagggaaaa gatgcttcac tactcctact agatataaaa ggggtatttg 1500

atgctgtaat atactaacag ctcctttctt acttatacct acaaggatgg tataaagact 1560

tactccagct acttaaggac tggcttactg gctgctttgt atctgttaat atcaaagaag 1620

gcactgctac agcactaatt aaaggaggac tcccctaggg atcccctta tccctaatac 1680

tcttcctgct atatatagca agaatagtct taccttaga gggctccttc tactatgcag 1740

ataatatggg catattatta actgggaata ccctggaaga gagcttataa taactggtag 1800

gggcctataa gcaaattact gccctaggga cagagacagg cctccctttc ttaatagaga 1860

aaatagagat ataatacttc tctagaaagc agcagcagca tctccctata gttactctac 1920

ctggtataga ggagattata ctattcctat atatatattg gttaggagtt cttctggata 1980
```

11756

```
caaagcttac ttttaaagcc tatattaatt tggtcttcag ctgtgggaaa caacttgccc 2040

agcacctaaa gagacttagc aatacccagt atagctgccc agtggcctcc atgcaggcag 2100

cagttatata gtatattctc ctaacagctc tgtacagtac agaagtcttc tatacaggca 2160

aaagacaaaa aggggtagtt aactccctgc tttctctctt ctgcacagca gccctggcta 2220

ttatcccagc ctacaagact acccctactg cagtacttct ccgcgaagca gacctactag 2280

acccagaagc tctactcaac agcatcctcc agagggcagc agtgagatat ataagccttg 2340

atactaaaca cctaattgcc caaatagctg cagagactac catgggcagg cccaaaacca 2400

ggcttaaaaa gatcctacag ctcctcctca gccccctgcc agagcacgct ataatagagc 2460

tgcctctccc tctattatac atgctcccaa cagataacaa agactatagc cctgccctat 2520

tacagatatc agtatacttg gacagcttgc aaactggcca aggggcagga tttggctata 2580

cagtctactt tggccctatc ctggtaacca agggacatgg ccccgcgggc cccaggacag 2640

aggtctatga tgcagaaatt ataggtgctg tagaaggcct acgcgcagcc ctgggacaac 2700

catgtatggg ttactctaca cagctagtta tcctcctaga caacctagca gcagcctccc 2760

tgctagcaag ctataggccc actctgcata ggcacagact gtcagagtcc tttggccagc 2820

ttgctaccca gtagttggaa gctccctcaa tcctaaccag gccatggaag ccccttcaag 2880

tctgctggat cccaggccat tccgggattg ctgggaacaa gctggcagac aagcttgcga 2940

acgttgggtc ctctatatac agccctaaca tccccccatc ccctgcatac ctacaacggg 3000

agacaaaaca gcagcttcgt acagagacat atacagcata tgctagtaag gcaccacaag 3060

cctacaagac cctggatatc agaccccata caaaggaaag ccgcacccgc gagcacaagc 3120

ttccccgttg ggtacttggc cgactcgtcg ccgcccgtac aggccacgga gactttacgg 3180

cataccacca gcgcttcaac cactcagact acctggagag ctgctcttgt ggtaggacca 3240

agaccccagt gcacttcttc ttctgcccat acaccagaaa gcgctggaaa gatagatgga 3300

gatatataag ggacggccca tcaaaaacaa tagactggct cttaagtaca gctgccgggg 3360

ctgaagaatt cagccacatc gtgcaagaat catccttctt caaggatata tgcccgaact 3420

gggcccgccg gagcgcttga tagtgcgaca gtccacacat ctacctggat aaagggtccg 3480

gtccctcccc ccaatctata ggtagtcgaa acgggcatct gccctcgaag acctggccag 3540

ggcagcgccg ggtgcttctt ccactcattt ccaacatata ttgtccatag ttgctgcttc 3600
```

```
aaacctgtat ctagctagct cctaggcagt tctgtttagg tagcacgtcc agatgccccc 3660

tgggaggccg cagatcacgt gggccccgtg atccgccgag tgacgttaaa taataaaacc 3720

aaaaccaaac tccaacccgg tgataacgct aatggctggg gtaaccaatg ccaagtcagc 3780

ataaggccaa ggtagctcag ctagaatcag agctgctgcc cagtctaagg cgagattcaa 3840

ggagctctcg ggtcgcggtc tggtagttca agtatgcgcc atgtcacgcc aacgaggacg 3900

gctctgaaag gcactgaagg ggcctcacgg agtgcaggct taggatcgct ttcccgcttc 3960

atcagtacgg tgtcggcaac gacaaggctt ggacgactga tggattgagc ccggaaggtg 4020

tgttggatgt agaggctaat tggccggctc atcaagacta atataacaac atcgcacggg 4080

cgacctggag agtctggaaa tcataagacg cgtggaaaca tatcagtgga ataagcgagg 4140

gcataatctt ccaattatcg cgccaatgac ggttgtgagt actgcagcat gcgatggatc 4200

cgcacaacct gctggacgtc caccgatgct gggaatctgg cattgggggc cgagcgatct 4260

ggaacgcctg ccgctgtggg ctttgtttac aaggtatgta ggggatattg ctattgcaac 4320

ctgaccagct atttatgagt caggggcaat caatagggcg caagccagcc ctgctcttga 4380

gactcgtcct catcgctccc tcgccatctc tattccacac caccgccacg ctatgaaacc 4440

aacctccccc aattcctctg tctgtgcacg ccgcactcac tgttcttagc aagctcatcc 4500

aggcgcagca acaagtgctc gtcggcgaag acattatggc ccagcaaggc agcaaggttc 4560

ccagcaaaca acgatgccgt ctacgccgtc gtatcagagg aagaccagct tttcagggtt 4620

gaattcctcg aggttgcccc gacgccaatg cctacgaaag attctccctg attcatgaag 4680

gcttttctgg ctcgatgaca gccttttgac gtcctgatgg agcgaccgcc ttttcttcgt 4740

ctacctgcgc ggctatatcc ccgagtctaa aagacagagc tggcagttgc cgacggggcc 4800

ctcgcggatg cgacctttgg aatagccgcc tcgctgtcta tcgtcggtca acgcccagaa 4860

ctgggcaact cggacgactg ggctgggcgg cagttcatgc tcgactccct tgaatcaacg 4920

accgagcgca ccgtcttcag tccttggtga tgcctcgtct atgggtattc ctacaggcgg 4980

gaagctcatc aaagaggcca accttgttga tatgctcttc ctgtcatatg gttctggagg 5040

ccagttacat cagttgccca tcttcttacg cctggtttaa tccttgaaca agatggttag 5100

tcaagcccgc tcttcacacc tataacccta tacttagaaa tgaatgttgc agggcggatg 5160

tactcgcttg tcataaccta gcccggatgc gccggccagg taattcacct ggtaccgtgc 5220
```

agctaacctc tagatataga aatagcgata gtaacagcaa agattccgca ggtaaagcaa 5280

gtccaatgga gcgtgacgta aattcaaatt gtttgggggg ggggagactc agataatata 5340

ggaaggctta attcgcaagc gacgtccccc cgatgaggct ttgcagcgcc ccggttccct 5400

atacctatga atactaggta gcaaacatac atagattgcg ctggaagaac ctgaaaccgt 5460

ccttcaaaaa accaacatca accccctggc cgttaaaact cccagcaccg cactactagc 5520

cgcgaaaatc gcgaaccgca ctggaattcg attaacggta acatgcacaa gactatgcaa 5580

cacccttaat cccacataca gccaagccag cttaaggtct gtgggatcat ccacaccgcg 5640

atgcgcaatc gcgagagcga gcgttacggc gtaaaactgc gtcggctgct cgaggaggtt 5700

gttgaagttg tctgctttcc agcggacaga ggcgggaatg ttacgattca tctcctcgcg 5760

ggtggtagtg ctgtcgattg gggtgcgcat ccgggagatg ctgggacgc gagttgcgta 5820

catccagatt tccattatca aagtccagcc gtttagggca aggatagggc ggaggaggga 5880

cgggatgatg atgctggaca ttgcggatgt ctttggacta atggtggttc gaagagcctc 5940

tgatggtaga aacttgtgag gtttgactaa agtttatgga catttgctga gaaaaggaat 6000

ggacttataa gcttacttaa taaatgctga ggcctagagg cggagtaata gcagagtata 6060

ttatagattg atggtctgac tcatgatctc ggcttattca aggcaccgac attctgtcca 6120

tttggaatca tcaggcccag cctctctcgc ttaaaattca ctaaacttgc ccaggcaccc 6180

tggtgccaga caataaacat tattcttatc agagccatgg cgcgcgcgac acttgaaaga 6240

agacctcaag ctcgccaggc ccggttccct actcgtgtgg ttggcagtaa ccagccatcg 6300

aaccaccgcg ggctgtcatc gcggagtaaa ttgcggtgtg agaatatggt tgatagtctt 6360

cgtgggtaat tcatcctcca gaggttctcc ctctcccacg tcttgtcctt ccgctcacac 6420

cttaggtctc caaggcgctt atgt   6444

<210>   5757
<211>   3424
<212>   DNA
<213>   Aspergillus nidulans

<400>   5757

gggatcccta agccaaccct cgttcaacgt ctgctaacta gttctgtata gacccgacga   60

tttgggtaga ctctacatcg aaacagccaa catgattcga accgcgttgg catgcatgac   120

```
ccccctggtt gcttacctga cgtattgcac agggcgtccc tcggtcaatt atcgcacttt  180

atcaatttga ggatagtgtg tcccgctttc atgcagcaat tcaaatcagg atcactcttc  240

tgcattgcat gtgccgtccg agctctgagc agtttgtcta tggacagtaa tgatgtcacc  300

atcctcagat cttcagccgt tgttcgtttt tcattttata gggatggacg ggaacgagta  360

gtactatttc gtacattcca gtcgaactgc cccgtagtct aaacactctt ttacgtactc  420

acagtaggcc ttaatgcaag tcagagctgc tcgccgaaat gtggcccgtc aggctccaca  480

gtcgctgctg attgagtcct gatggctgag cgccccatta ctcgaatcgt tctgcgtgaa  540

tgaaggtttg gagaatagac cgttgattcc attggttggc ttccaagaca ggtacctaca  600

tatttgtctc cctgctatcc tcaatctggc ttgcaggccg tgcggattgt cattcaaaag  660

tcctagtgcc acaagctcgt gtcacatctc cgaaataaga agacatggcg tctaaaaagg  720

agcggtgaac caagcacaca ggagcagaaa tgatgaaagg gagaaggatc caagatcctg  780

caagtactcc atacatcgaa ctccaaaacg gcagtcctca gtctcacatg gactacgggc  840

ccgctgcaaa ctattttgt ttgtccacta gcccgcgcat aaaggtcttt tcgagacacc  900

tgcaaattcg accacggtca aattgcgcca ctcaatcgaa tgtcaccaga agaacaaatg  960

accgcatctt aatgaaacca gtatccagca tacagtatat aagcggctct ttcagtacag 1020

cgagctgcgg agctaagcca cagaaaagac acaagagtcc ttctcagccc tagaaacttt 1080

gtctgcgtaa tcgctaaatc agttgatata ttttggaccc agcttgacct gcgaggtttt 1140

tctgcgcaat cggtgcttct cccgggcata ccggttacgt cgctataaat ggtccctcgt 1200

tcgtcatcga attcctattc aaggcttagc ctggttgact tcctgacgtg catgtgttcc 1260

caatcacaac aaaccaaaaa ggccgcgcat ctccactaat ggacatcttg cgaatcacga 1320

gcggccgtct gattgccctg ataatgacca agacccctat gtatggcatc ccatcgccgc 1380

ggagcgtgca acgaaactgc agccggctgc aggcttccgg cctcaagggt ccggtcaagg 1440

ctggctaatc attttggagc caggagtgtg tcaaaggttc aagccagttc gaagactatt 1500

cgaaggcgac tattttgtcc acctacgcct tgtcatcgag aactgagaag ggtatggcga 1560

tcctatgatt agaccaatat tgtctgttgc gattcgtgga ctgtgccatt ctggggcgca 1620

ccaccgaccc ctccgcgacc ttgcccttgc ggtgctgttt ggatgtaatc attctatact 1680

tggagaggtg aacatgtatt tgcgcaggga aaggctacgc tgattgtatt gaagccacgg 1740
```

11760

agatctcgag gtatggagca atttctgcag ctcttttccg tcttgccggg cgtaaggcag 1800

tcagaaggct tttgttcagg tacccgccat ggcctctctt tgaattggga cacgaatagc 1860

tctaggccga gcacggccac ataccatatg tacgtttcgt accagataga aaagtgagcc 1920

aggtattata gcccttgcc gagtcaactc gagagcgaaa gtcactgttc atttgtccgt 1980

gcccagcggc aatcccatgc cgacggattg ctctgccaca acgatcgctt caacaaagac 2040

tcgaaccaca ctaagttcgc gcgtcacccg ccacaaggca tattttcaac atcccacctt 2100

gatatgaagt ctttgtctct ccatcctgag ccagttttct agacgacgca gaaaatactt 2160

caagccttga caggcgataa tgacgtacgc atctctccaa cctgaccaga tatttgttgg 2220

atgtcctgac tttctgcctc ctaaggagcc caagctcgca aacggaggaa ctggacgacg 2280

aatacatccg cctaataacc gtccatggcc gtgagtatca gcagtattct atcgacaaca 2340

agatttcatt tgagccggta gacgaggtga gactcgtttg tccagaatgg ggcttagctc 2400

gtctgattat caataggatg aagctgaacg gttggatctt caacatcaaa ttttcagcag 2460

agtctttgac aaccgactta tcttccctcc aatcccgcgg ctgcgaagag tgctggactg 2520

tggttacggc actgggtcgt gggccatcga tgtcgcggaa cagaaccctg actgcgaggt 2580

ttggaactca catttgaata agatacacta ggactggtta gctgacactc ttatgctcga 2640

aaggtaattg ggattgacat ttatcctttc atgaacccgg acgatacacc ggagaacctc 2700

tggctccagg taagctgtca tacactctct taccggaatc gaagcacaac cccgcgctcg 2760

agcgcacact ccatactgtg tgaaccggag tctcgttgca gtcatttccc tctcttaaaa 2820

tcgatcacga cctaatctgt ccctcaatcg gatgatcagt gggagacgc tgacgacttc 2880

tcgccaggta gatgatctaa accgcccttt cacctttcct tcgaatcact ttgaccttgt 2940

ccattctcga ctcctcgcag caggcatcaa tcggtctcgg tggccatcgt atattcgaga 3000

catcaaaagg tttagcgatt agcggcgaag ccgtaccacc aagccaaccg ttgacggcac 3060

aagactgacg attgaatggc agagtcctca gcccggggg atgggtgcaa ctggtcgaaa 3120

tatacttcaa cgtccaatca gataatggct ccataagcga aaaccatgct ctgaggcaat 3180

ggagctcgca gctcatgagg tcaatggaag acaataagga tcttagggtg ggcacccgct 3240

tgagaaacct cctgatggca gaaggattca cggaggttga tgcaaagatg atccctctac 3300

ctttatccgc gtggccagac agtatgagcc ccgtaggacc ttttcttttc tgccgtttgt 3360

```
cattaactga caatacacct cagacccgac aagccgagat ataggcgcga tgaatggtga 3420

aaat                                                                 3424


<210>    5758
<211>    9652
<212>    DNA
<213>    Aspergillus nidulans

<400>    5758

aaggggcgtt gtatacaaat caagtggtag acaatagcat ttgcaaggac cgcgccagtg   60

gcacctgcaa cggcgcttcc ccaaggagac agagcgggct ttgattgacc agccattttc  120

tcgagacgat tcttttgagt tggacagctg gaaaagaact agacaacggt gaatggtgga  180

cagagctcag agtccgcgaa tgtctatcta atgtgatctc ggtcttgccc tgcactccgc  240

tttgattgag ggccgaagac ggaggagcca ctcaagtact gaaggagtaa gcgaccccca  300

aaaacacaga caaaataaag acgccgctat aggggacagg cagatgatag tgaacgaaga  360

cagagcagta gtcaataata gaaagggata gagaattaga gccaaaaaaa gaaaagcggc  420

agacagttct gctctggagc cggggactca cctcggcgcg catgacgaat cgagccgagg  480

tccaagtagg tagtggtcct tgtggaggac tcgagcttat cggcttgctt cgactctctg  540

cttcccgctc cccgccgagc aacaccagcc tcacaaccca ctctctctac tcgctagctt  600

ctgctatatg gcactctccc aatcgcttgt tgatatttcc gcaaggctct agtggcccgt  660

acagtccttg tccggttgtc atcgtttcca attgcgcctc cccctcgtgc tgatccgggg  720

agacggtcgt tactgacctc attctgacct cggatgtgag gggttaggtg atcagcggag  780

actctcggga agggcacagg caaattgagc acctggctct ctgataggag catcttgttc  840

tggatgaacc gttctaggga gcatagctct ggtgaagagt aaagacccca gtcatttaac  900

aaaccgctat cccgctttgg gatcaggatg tctagaacct ctagcgcccc ctcgcagaag  960

tctttaatat cgcgagcact ggtatttatt cgaaaattat tccttctatg gttcactaac 1020

accttagcta gaaagctgag cgggatgtca ttacggcctc gtcgcaatcg caggctttgg 1080

acgctgccat tgatgctgcg aacattata tgaaagccct agctttgaca agctcttcta 1140

aagacagaaa tgtcttggac gcaaagtgca agagtggct cacgagagct gaaaagatta 1200

aagggtctga agattggcgt tctgtagcac agtctcgacg gtctaggctt cgtactccag 1260
```

11762

cgtcgacgcg aaaactcaca actcgtgagg acatcatcct tttacagggc gcaaagctga 1320

atggcttcat atttccgcca tggaaagcag aacccagtct cactgaattc gagaccggaa 1380

ccaacggaga tgtgttattc acgtacgtgg aatcaatctc ttttctactg gtgttaagtt 1440

tgaattgaga gagatagata ttctgtgcat attctaacaa tatgcagcga taagccggat 1500

cttcacctgt ctaacttgca gagagacata tttgctggct ggaaacggcc gcacgagctg 1560

ctctcggggc aagtggacga tgccgggatg ccgctcaacc ccgtgatgac tgtctccgga 1620

aacacggatc tagtgcagga cgtgttgacg gattgctccg ttgttgccag tctttgtgcg 1680

acgacctcca gatcggagcg tggccttgac gatgtgagaa acttctgttg tatgcaagaa 1740

ttacgaatgc tgacgcacac agactctact tccgattgta tatccatgca tccacaattc 1800

aatgaaatct gacatttcgc catctggcaa gtacatcttt cgcttctact tcaacgggtg 1860

cttccggaag gtggtcattg acgatcgttt accgtcgtca aaaacttcga ggtctttgta 1920

catgattgac cgaaatcatc gtaactttat gtggcctgct ctggtagaaa aggcatactt 1980

aaaacttcgc gggggttacg agtttcctgg aagcaattct gggacagatc tatgggtgct 2040

gacgggctgg atccctgaac aagtctttct ccacagtgat gaagtgactg ctgaccagat 2100

ctggtcggat ctcttcaaat cgtttcatag cggggatgtt ctcttgacga tagggactgg 2160

gaaacttacg gagagggagc agaaagagct gggccttgtt agtgagcacg actatgccat 2220

acttgatatg aaggagctca aggacgtcg tcaattcttg attaagaacc cctgggctgg 2280

gactgacgct gtgtaccctg cgcttttcgc tgatcctgga ccattcccca actcgccttt 2340

tctctccccc ggcacgttct ggatggattg cgagatggtt cttcaaaatt ttgagaattt 2400

atacctaaac tggaatcccg gaatattcgc atatcaggag gacatacatt tcacgtggga 2460

tttgtccacc ggtaagggaa tggcagggtg ctttgtaaag aatccgcagt tttcagttta 2520

taccgaacgt ggcggggtgg tttggttatt gctaggcagg catctcagga caatcgagtc 2580

tcgtgcctca gaggaagacg agagattcgg attcatcagc atatacgtgt ttaagggagg 2640

aaagagggta gcactcagtg atggagcgct ccatcgaggc ccttatgtcg actcaccgaa 2700

cactctcatg aagctcgatg ttcccccaag aagtacttat accgccgtcg tgtccgaaga 2760

gtctttacct cgagtcagtc aaaattttac aatatctgcc ttctccgatt cgcctgtgcg 2820

aatatcacat gcccccaaca aatacatatg tgtgactaag gttcaaggtt cctggacacc 2880

```
aaccacagcc gggggcaatg cagaatcggc acggtactca ctgaatccgc agtttagcat 2940

agtgctttcg gaccccacgg acatttcaat tgtccttgaa ccatcagacc aggagcttgc 3000

cacacatgtc aagctgttct ggtcgggtgg aaagcgcata gccagggtcc gcagccgcga 3060

tatcgtcgca gatagtggtg attatcgccg gggtggttcc ttagtagaaa agcaggacct 3120

ggaccccggg gagtacacca ttgttgtctc cacatttgct cctgaccaat acggatcttt 3180

cacactctgg gtttcgacaa acattacttg tgaagtgaca cagcttccat cagaagctgc 3240

agggcggcga gcggtgttgt ccgatattgg agtcttactc cccggccagg ataggatgct 3300

tgctccccta caactcccc gactgacgcg agtcaagctc attgcgagga gccgagagtc 3360

cagaatcggt aatagacctg ttggtccctc gcccttattg atgaccgttg agcttggtca 3420

ggggccgtac aaggagattc tagccacatc agaggatggt gaccatagcg actcgatatc 3480

tggagtccga gtggaagact tcgatcttca gcctggcctg aagagaggg gcggggtgtg 3540

gattgtgctt gagagaattg gaggtcctgg cggtcaagtg gaagatcatt tcgaagtgga 3600

agctctggga gaagagagag tggagattgg ggaatggata gttgaagatg cataatcgag 3660

atattactat aaaccacctt gaatgggtca tgtcatcgaa tgctgcagaa acttgttggc 3720

tccttgtatt gttgtagtgc tctgacacta tccatgatag aaaagacgta gtcacggtac 3780

ctaatgcggg gaggctgccg caaattagcc ccgtcccgca ggaactctca agtcccaacg 3840

tcatccccac cttgagttcg tgtgtatcac tgtcaacata catccactag tcgaaaactc 3900

gcaactccaa ccagggacgc agaaatatgg cgagcaatat tcccgctgca ttgaagtctg 3960

cggatgttgg tcgctttgct ctgcgggcag cccagcttga aaaggcgaag cccatcattg 4020

cctactggtg tgagtcttat gtgacctgcg tttgacggac ttaggactaa caaagactgt 4080

gctttgccat aggtaacttc tacattgtga accaaattat tgaaaaaggc ctccatacca 4140

cggatgagga cgtaaaactg tatacaacgg agctaatgga gaagctggaa caagtatgtt 4200

agcgcgatca cgaaagtcct gagtatcttc tgggcgggtg ctgaccaggt cattgtgctg 4260

aagtttcaga atggaaaccg cgacaatgat gctattacgg attcaatggc cgccagtgcc 4320

tatgtggagg agtttggcct cgaagtcttt ggtcgtgcag aagccgccct gcgggccaac 4380

aaagtgacca agttcgtgcg cattcacctg agagctggac atcgagttga cttggttcag 4440

acaaacagcg gataccttcc aggccgccgc cacgtttctc gagttatgcc agatctggaa 4500
```

ccctctcgaa gcggaggttg ctgcgaaggt gaaattcgcc aagtaccatg ccgtgaggat 4560

tgcgaaggcg ataaaggcgg gagaggaccc gaatgcgacg aacccaaaga ttgaggaacc 4620

agcagaggaa agcctggtag aaaaatcaac cgagtctgat gcggccactg cgccttcaac 4680

tgctctgttg caaccgagcg ttgaagacga tccagaagaa tcacaatatg cgcaatcttc 4740

tggaccgtcg cttgctctac cgcagccgcc aacagccctc aacaagcttc cttccgctac 4800

tgaagagcct gcgtctagtc gggttgcaga cgtaggctcg gccgaggatt taccactcaa 4860

ccttccatca acaccgaata cctttgcttc ctcagcagcg ccgaatcttc ctgatactcc 4920

aaccaacatc ggaggatacc accgttctaa accgtctaat gagtttcagt cgttccctcc 4980

accatctgcg ataccaccta ctagctcctc aaccgcctcg caaggtgaag actctttcta 5040

taacgtgcca agtgccgcgc ccagtcaagc gccacgtcca acacatcaac cttcacctat 5100

agcaacgcct cccgttgtag cccccgcgcc ctctacccaa gcgaactctc acgatattga 5160

tgaccaagca attgctctcg ctcagaagca tgcccggtgg gctgtatctg ctcttacgtt 5220

tgacgatgtc aatacggcga tcaaagagct acggaactct ctaaaactcc tcggtgctga 5280

atagccggac tttaggagac gttgccctgg gatatgttag agaaatggaa catggggggag 5340

ggaattgcat agcgtgacga gttagacagc gacaaccagt gtatttattc ttatcatatc 5400

tcattcgaca taatagctat cacgatacaa tgacatcgtc cttctagaac ccggagcgag 5460

tccgacaggt tctctgtggc accgtcgata ctccgtcttt tctcctgttc acgggataga 5520

gcatcacact tctgctgact gagattgcgg cagcctcgat ttcagatagc cagcttctgg 5580

tttagtctgc gggaggagga gtcaaatgtt ctctcatcct gtgacgcgcg ccaataccgt 5640

cttcagcaac acatctaccc catccacttt tgcgcacctt tctgggttgc tgatacactg 5700

attctccttc cgtgcccttt cactcatgag tgtttctctt gtctgcttgg aacttaccat 5760

ccgcccccag tcaccctagc atgggccatg agctcttgac cactctcctt tgaccaaagc 5820

tccaggtata gatgttgaaa cttgtttctc ctccgctatc atgctttctt aacaaacatc 5880

gccatttatc aagcccgagg atcactctac tctcttcaga agacttgctg aatatgttgg 5940

gatattcaat aggtgaaaga ctttttgtga gccccgtagt accacgaata tctgcgtcga 6000

gcaacccatg gacggtcaca gacactagta ggggctata gagtcatgct aagcgaataa 6060

aggctgattc agttgctcgc ggtgaaggtg atagtcttct tgatgattct cgctggtgga 6120

11765

tcgctttccc tgtcttacca ttctttctcc taatcttgct tccatcctgc atgagtctct 6180

gtgctgaacc gggctgacaa cttcttgact cacaattagc tgagttctag ctcttagaaa 6240

gaaagccaac agttttgtga aggaaaagtc cgaatgctcc cagaatcgag ccacaacggt 6300

cttcccgcgc cttgcaaccg aaaacgtacc caaagttgaa gggctctagg ggactgagtt 6360

cactcttacc gagcactgcg atgaatatga tgagaatgag tatgtcgaac cttgccgcct 6420

aaaagagcgc aaactttcag agctcttagt ttgcacctta tcccggataa cgcaagctct 6480

ctgacatttg cgcgcttcct attaaaccgc aaccgggatc gctactacta cagccgaagt 6540

ctcaagctga ccggtctaat tttgtagatg tatacttgtc agtcgccatc cacttcaaat 6600

ggcgccgtga tacctcttcc cggtgactac cgacaaaaaa gcttgccccg tctggtccag 6660

gtcctgcaac gaagtttcca tcgtcattac ctctcgagat agggtgtgct tgcagcctca 6720

agcagatgaa gtgagctccc aagctcacgc gggagttgga gatgaaactg cagttagctg 6780

ggatgatcat gttgcagctg ctcagcaggt aactgcaggc tatcgctatg cctccattg 6840

cacagaagta gtctggtcat gagatatttg tgtgttgggg aaacaatcgt gactaaaggg 6900

ctgtcatgca acttatcata caatattccg ggcggcatag gttgcaaagg gattttgtca 6960

tcgacccttt gatctttccc aaattcgtgt tgtgccttta tactgagcgg taaagatcaa 7020

aaaacggaca ctttcgatct tcttgctgat gtaaagctcg atgaagaggc ttgtccacgc 7080

actaattggg tattagacac tatcagcatc tggacaggga agttgcgata tagcggaata 7140

ttgacaagac tacaagacta ctttttttaa ccgaagtcgg tccctgagtg gaacgtacag 7200

cttaacatct tcatacgact atcttgtagc ttccctatga agactccctc aataatagta 7260

tatccttcat tcctaattca attcgaccgt cattgagctg gggcatctac gaacacttgg 7320

ctaccgtatg agacagacag aaagatacga ttgggctatt ctggttgatg aacactcttt 7380

caaacttcga gccttcctag ttgtcaactt ccattaccta acttacagcc taaacagtga 7440

acgagagacc caggaacttc gagttgtccc ttctccgcaa ttcctagccc gtgcccgggc 7500

gtttaattta ggctggcatg aaccatggaa cagagcaagc gaagctcact tggatcggag 7560

atttccaaga ctgtcgtcaa cagatcatct tcggcaaaca gcttccagaa ttccaaatgt 7620

ctatcagaaa cactgtttac cgcaaggtga tcaacttcga gccaggctag aataggacat 7680

cagaagcgac ctggcttagt caattggaga gcccatcaga agtcgtcgag ggggttgcaa 7740

11766

```
attgggcaaa taatattaca gttgctgaga ttaaaaactc cactgaaccg cagatcctga 7800

cttattccct gcagatgatc aagcgggaaa tcctccgctg cggcgcagat gcaacgatgg 7860

tgccgatgca ggttaggtaa ttaatttgga gaaggatcta ggagcttgac attgagtatg 7920

ggacaattta tccgaatcac gatgcgtttg acagtttgga agcagtaagt gagggatgcg 7980

atgcctctgc attctgcgtc tgcatgtctt atttggattg tctccccgga cttcgtttgt 8040

tcgttggact catccctgca gacacaagga actcgggcgt ttcggggact agcgactgcc 8100

aatctcatgg ttattgactc atgatcgact tccgccgcca actgcgcagt gcgttgcagg 8160

ctgccaagta cgcctgttgt ctctatccga ctagcgccgt cgaattgcct tatccactca 8220

ccccattgcc ttccaatcta gcttttgcct tgcgcgatga tcgtttattc caccagtcag 8280

ctttgtgatg aggggcaata gcattgacag gaaggtaaaa agcacaagac acagagtggt 8340

agaggcaggg agaatcaaat gataacttct tgtagtagcc tcggcaagtg agacagttcg 8400

tcgagtctca atttaagcgt aaagtcaaaa ccaggcgttg gctcagtcca cactgcacag 8460

tcgcctgtag tggcaaacga catctaagct cgaacgcata gatcataatc catatccatg 8520

gtgacctcct cggagttgga tatcagatat agtgtggagt catggtgata gtttgcctgg 8580

aacatacgag tgctcgatgg tgagctcgaa tgaataatca ttctttgagt ttggtcctcc 8640

attttgttcc ccaaccattg caagtcatct ggaaacgcgg cccgccgtgt ctctgggctt 8700

tgaataccat tcagacgcct ttagcacctg gtactcgctc agcaaagcat gtacggacag 8760

ttcgaggtac tcctaggtca aatttcctgg gtggagcgta taagcagacg tcccacaacg 8820

cgtcgcttgg caggggaacg acagtttgac ctgtcctcat gaccaggatc ccacgatgcc 8880

gccgaaattt ctagatgcag cactaacggc gttcgctcgg tgatggcttg gaagggggag 8940

cgtcatcccc gtattcgcgg tgaagttgct ttttctgctg gcttccccag caattgcggc 9000

ttggcttcga aggatcgatg ggatgaataa aaccggtcat attattgagg cgaagtctgg 9060

aaagtctgga aagtatctat cgcagacgaa taagttcacg tagaatgttg gcccgtgggc 9120

gtggtcatag tgtccgtagt acttgggtag tggcagggga aagggatcaa cggcccgcga 9180

aagaggcgac ggcggagtat atgactactg tatcctggac agcaacatgg gatagtcgtt 9240

tagctcgaga gaacccctag gtcaaggttg acagagattt ctttcaaccc cccggggggg 9300

ccttgtgaaa tctgattatt gaaaccgaat ctccgtccgc ccaaaggggt acccccaaac 9360
```

11767

ttaaggggtt cttcctcctt aaggaattct ggcctggtac agtttgatgt tccttttatt 9420

tcttttttcca tttgggcttt tggatttcaa agaggggttt acccgggcaa aaattgaagg 9480

ttccctcccg aaaccgaaat cggttccttt tttaaggtcc cgtggtttac ccacagttgg 9540

cggcccttta aaccctccaa tgtgtacctt tcttgggaac ccttcgttta taatcgcttt 9600

tagtggggggg cccgatgtcc cgggtggagt ttgcaatatt ttccttggaa aa   9652

<210>   5759
<211>   3075
<212>   DNA
<213>   Aspergillus nidulans

<400>   5759

gcgaacagtc aacaacacaa ccggcgggcc accggacccg cggaccgcac cgataagcac   60

cggttataaa cacagccaag agcgccaaga catacacgga ccacacagac aagggcggcg   120

ccacggaccg gcaccccaag gaatctaccg accccacac tggaagctac gaccgaacaa   180

acgccgccgc ggacatgcgc gccctgact ccaaagctcg ctggggcgtc gatgccgatg   240

tcgaaacggt gcgctgggac atccacgatc ccaactactg tcatgacact accgacgccg   300

gtatggttta ccggctacga tatccgtaac gtccccgcca cccccaaggg ctctaagcct   360

gtctggtctt tgcaggccca cgactcctcc gtatcttcct tcgacatcaa tcccgccatc   420

cccggattcc ttgcaaccgg ctctacagac aaacaagtta agctgtggaa cgtggagaac   480

gacaagccga gcatggtcgt ctcgcggaaa ctcgaggtcg gcaaggtctt ctcgacgacc   540

ttcgcgccgg acgcagaagt cggcttccgg ttggctgtgg ctggaagcaa gggcactgtc   600

cagatctggg atacatctac taatgctgct gttcggaggg catttgtgtc tcggctgccg   660

tcgcttcaag gagaggtgca ggagcgtatg gttggtatgc agcctgatca ggatgagtcg   720

gatgatgatg gtgcaccgga gactggcgcg gctggtggtg cggatggttg ggagtcgatg   780

gacgaggatt agatgcgagg cttgcctatg tctaaagatg agcatggctt actgaggcga   840

cggctgtttt tttgatagtt tctactccgt ccatatatag cgcgtcttcg taactgtcat   900

agctttcatc cgcttttaat gaaaagttag atacccacat cagatgctct gactgtctac   960

ttacgtctaa tcctacgtct aatctgtgaa gtataagatt catcctagag ccaatgggtt   1020

ctatgacgct gtcacgcata atgataataa tggatactct atagatgcgt attccaaaca   1080

```
gggatgtatg tctacggagt gtataacgtt attatactta gcctaactac tgaattttac 1140

cgcggccgcc agtgttgatg actaagggcc tgattatagg acggaagtgc ttcggacccg 1200

agtatagctc caactatgga agaactagcc atgttggctg atggaagccc gtacggataa 1260

tggacaccag tactgtgatg gatgacaata tgaaatccta atagtccgaa ccgacgagca 1320

ctgtccgtct gttcctcaaa cccctgttcg agtaatacaa cgaagtaggc gcaagcaggc 1380

caagcaggcc aggcatgaac cgtgcgctgg cccgtggact tcacgtcctc gggtgcaacg 1440

ggccggcagt tttacggtca gttgcatgaa ccgtcgccag atgcgctgtt tcaagagctg 1500

tccctttctg cgggtagact ctgacgaaaa tccaagtttg actggcatgg atcgactttg 1560

agatcaacca gaattagaca cccagagcaa gttcgtactg agtccaggcc gggcaaacgg 1620

tgggctttca gggtcggccc ccgctccacg cagtgcagtg ggggagcgcc ttgtctggcc 1680

agcattgaca taattggcta gcgggcacag tcgggatgat ttgtgcctgg ccaacaccgc 1740

agatgacacc cattgctttt cctcaggtga atttgttggg tgcacacccg tagatacgcc 1800

gaatgtgcta cgctgccaga gccccgggct ccttacttag cggtccagat caggttcttc 1860

ctccgagacc tcactgcaaa atgaatgcca ggcgccagga gcgaggctat tagtctgaga 1920

cgagtcggcg gaaaatcgct gtttcatcct ccacccatga agcagatggg cgtttctaga 1980

ggccgccgcc ttcccgttcc tggcgccaaa aaacaaacca ccgcgactgc aagcacaatt 2040

ttggctgatc aggcggtcga tgactggtcc aaactgcttg agtaggatta atcggccatc 2100

acgactccgc caataatcaa tccttatccc acgtcagttt cgaggacgtc gcttttcgag 2160

tttcctcggt tgacttctcg agaggacaat cggacgtggt cggtgagtgt gacagattga 2220

ggattgcgaa agtcgtcttc ccactcttga cctggatcag ctggcctggt catttgtcgg 2280

gcgaacgcac accgaaactc ttgctgcaaa attgattgaa ggggtctggc tttggcctgg 2340

cgtttcgttc taagccctta agcaaaccac ggtattgcct gcaaagcaac cgtggttcgt 2400

cctgaaaagc cagaaaattc tctcagcagc aagcgaacag aaggcgatta acgaccgtga 2460

actggattgc gtgtttgggt ttctggttga attgagccta cagttatagc agaatgtacg 2520

gtagtgtctg gttgcccagt ccctccacag cgaacgctca actgtcgcga gtcgcctcgc 2580

cgcctccact cctcctttgc cttctgctcc cctcagggcc cttcttccct ggattccctc 2640

ctcttctctc ctttcattcc agtccttgat caggcagtcc ttccttcctc tacgtcctgc 2700
```

11769

cctcaggatt atatcttcag tttatttctt ttcttttttca cggtcctggt cgtccgcttt 2760

atcttcactg tacaatcttg ctttgctgtg ctttgctgca gcaactctga catcccttga 2820

gtcaggcagc tcacactctc cggagaggac cttttaaaaa aacgatcttt gactactttt 2880

cttctctgcg caaaagagac tcaggccaca ctctttgacc tacgtgattg ctacgaatct 2940

gataacggaa atccgctatt tgatcttcca ttccttgcga actccacatc tgcgatcggc 3000

caccacgcat tcctacctcc gcgctaagat atctactatc cggcgaaggc atcgcaaacg 3060

aacatccaag aatat   3075

<210>   5760
<211>   5503
<212>   DNA
<213>   Aspergillus nidulans

<400>   5760

gttcttctgt gtcggcttcc taaactgtta gggctaggct tttgaacaac acaccgacac   60

cggagcaact gtcctggatc ttgtcggcct agtctttcgg cgggttctac tatgaataat 120

gtcccctcct atccttatga ttgatgacct attatttacc gactctagag gtttatgatg 180

gaatgcttct ctacttgaac aattctccct gcctactcag tgatcgagga acgtggaagg 240

taacgcaaaa actgtacttc gtaaatcatt agatcgtagc tcaactatgt ccggcaagaa 300

ctatgtatct gagctaagct aattgcgacg aatatatgtt ctaccatact ccgtagagtt 360

tgtcaagagc tgattgccac agattggcgg tgtgcctgag ccacagttgg tgccttaggc 420

ctcacaccct gagccattgt ccgcaactcg tcacatctga gccgtaatct gagcagcagg 480

caagccgaga cgcgctctc ttctctcgtc gcgcaataac aaacagtccg tcctgaaatt 540

gactcgctgg attacgctta tggactgaat atgagttgag ttttgagctt cattacagga 600

cttgttactc cttttcctcga ccgaactctt atctccgcgt cttgaaggag gcgttgccgg 660

ttcgaggagc ctacgcacgc ccgccatgac ctctttacgg aacaaatatt ccaatggcat 720

cgtcaacggg gattcgctcc ccgtaactgg agtactggca aattctcgat tttctgacat 780

cccatccgcc atcgacattc ccgcatccac actcgacagc gaggtcgaag tgagtctcga 840

agggcttccc gatgatccta ccgaattatg tacactcctg gaaaatgaaa gagcggcgaa 900

gaatttttgg gtcatcatag cgctcgccta tgccaaacaa aagcaaatcg atcacgcgat 960

11770

```
cgacatccta aacaagggtc tcgcatcggt tgctcaaggt gctacaaagg agaagttagg 1020

cctcttggga tgggtatgct ggctgtactt gctgaagagc agggaggcgc ctcgtgtggt 1080

atcagacgtt ggtttgggta cagaagcgag gaccaaagac tactacattc agcaggcgac 1140

cggaatatta aacgaggcgt cgcggttgaa cccatccttc ccgccccttt tccttgctcg 1200

gggggtttta tctctgttgc gcgcctcttt acatccccca cggcctgttc gaccaggggc 1260

tgttgataac tcagaaagag tggaatcatt gcgccaggcc ctgaagcagt ttgatgaatc 1320

ctcgaaagcg ttcggtggta gaaatgccat ggctattctt ggacgcgcca gggcgcacta 1380

cctacttggg cgatatgcag aagcgctgga agggtaccag aaggttctaa tgagaatgcc 1440

tggcctgact gatccagatc ctcggatcgg tatcggatgc tgtctgtggc aattgggctt 1500

caaggagcaa gccaaagctg cttgggaacg tgcactagct ctggtatgtc agttcgaaga 1560

atgcatcttg gatgttgtag tggtactaat acagtacttc cgcacttata gaatcccgac 1620

tcgaaagttg ccaacatcct cctcgcggta tattaccttt atgacagctc ccggcatgct 1680

acaacagatc cggcattcgg ttccctgtac aaggtggcca tgacacaata tactcaaaaa 1740

gccttcaagc tggacaagga atatcctatg acctgcgctc tgtttggcag ttatttcctt 1800

ttacgaaaag cttattcaac agttgatact cttgctcgca agtcgattga gaacactgac 1860

gtcatgcaaa tagccagcga tggatggtac cttctcggtc gaaaatgcca ttatgaggga 1920

gacctggcca aagccgcaga gttctaccac cgctctgacc aagctcgggg cggaggcgat 1980

aaaggttatc ttccggccaa gtttggctct gtacaaatgc aagtgtctaa caaggactac 2040

gacggagcca gtttcagct ggagaaaatc atacagcaga caaagaaccc ggagtgcatg 2100

acactactgg cggctctcta tgcggaggag gtctttgcag cgcagaaaag tggaatgaaa 2160

gaagacaagt ccgccgaagc taaaaaagcc atcacgttgt ttgaggcagt acgcgcgctt 2220

tggaaggatg aaagtaagaa gattacgccg gacgagtcag ttttggtata tctttctcgg 2280

ctatatgagc agaacgcccc ggataagagc atgcagtgct tgacacaact ggaagaattg 2340

cagctggctg agatatctga tgaggaacgc ccagaaggcc tcgaagatga ggaaatgaag 2400

gctgccctcc gagtaaatct gccgccgcag ctccttaata atatgggttg cttcctatac 2460

cagagctcgc agctcaacat ggctcgttcc atgttccagg cagcgctaga ctcttgtgct 2520

cgatcgcaag agagggaagg ggaactcgat acggacgccc ttgtcacaac aataagctac 2580
```

```
aacctcgggc gggcgttcga ggcatctgat atgcccgatg aggcgaagaa agtttacgag 2640

gccctcctgg aacggcatag cgactacact gaggcgagcg cgcgattaac ataccttgct 2700

ctccggcgta gcccgacgga tgaagggccc aagaagatgg cgaaactgta cgagacagat 2760

tccactaatc tcgaagttcg ggctttgttc gggtggtacc tcagtaagtc caagaaacgg 2820

gccgcgaaca ttgcagagga ccacgagcag cgccatcaca agcatacgct gcagtatttt 2880

gacaagcatg accgatacgc acttactggt atgggtaacg tccacctgct gttcgccaga 2940

gacatgcgac gtgatacgga ccaggagaag gagaaacggc gcaagatgta cgagcgcgcc 3000

gttgagttct tcgacaaggc tcttcagctg gatccacgga acgcgtatgc agcgcaaggt 3060

atcgccatcg ctttggttga tgacaggaaa gatcttagta cagcagtaca aatcttctcc 3120

aaaatccgtg actcgttgag agacgcgagc gtctacctga acctagggca tgtctacgct 3180

gagctacgcc agtatacacg atccattgag cactatgagg ctgcattatc caaggaccgg 3240

gcccgcgacg ctcaaatcct cgcctgtctc ggccgcgttt ggctccttaa gggtaagcag 3300

gaaatgagcc tcgcagccat gaagacagcc ctagattatg cccaacgcgc acattctgtg 3360

gcgcccaccc aagcccacct cgaattcaat gtcgccttcg tccagaatca gatcgcgtcc 3420

ctcacataca gcctacccga aacacaacga actgcccaag acgtgcaaga cgcagcggac 3480

ggcctccgca ccgcggtcga gactttcggg cgtatcgccc aggccaagaa tccgccttac 3540

ccggctgagt ctcttgaaca gcgcgccaac atgtccaaga caattataaa gcagcttgaa 3600

cgggccctcc agagccagaa ggaatacgag gagaagaatg ccgctaaact acagcaggcc 3660

cgcgaggccc gggaggccga gattcgccgt cgcgaagaag aagtccgcaa ggcggaggag 3720

gctgagcggg agcggaagca gcgtatcgcg gaagaacgtc agcggctcgt tgaagaggct 3780

caaaggcttg cgctcagcgg gcagaagagg aacgggcccg cgaagaagcg gagatgacta 3840

ctgaatccga aacaggcgaa aaggtcaagc gaagaagaag tctgctggct catccaagcg 3900

gtagaagcag cgccgtgagg atgacttcat taatgacgat gagggcgacg cgggacagcg 3960

catagctctg agcccgatga tagtggcaag gaggagggtg ctccgaaaaa gaggaggcgg 4020

ttggagcggc gatcaagggg tgctacttct ggtagcggca agtcgtcgaa caagtataag 4080

agctccgaga tggttgttga ttcagatgac gaggaagaat ctgctgctgc tcctgctgcc 4140

gctacgccga cggcagggga ttatgacgac gaggaggagg aggatattgt acagcggcgg 4200
```

11772

```
aggggcgaaag tgactaggcg atcgcggat dacgatgagg aagaagatga ggttcctccc 4260

cccgctgaag gagatgatca tgatgatgct gggttgttta gtgaaaagga ggatacagag 4320

atgaaggatg gcgatgatga atgattggtc ttgctctgtt cttttaattc gcttaccact 4380

atgtagttta catttctttg agcttgcatt ttctgatccc atacgatgag tacttggcgt 4440

tgggaaggat gcattcacac taaaacttct cgctagcctg catacattgg agggcaagtc 4500

catggagttc ttgatcaaag atactgttat gtcgctgacc taggcaattg ttgcgattcc 4560

aatatccccg agtcgcttat gtactctggt actattcaac ctcaacaaac caactactac 4620

ttggaaggta agcctattct ataatgtagg atagcgatac ccagcctgga gagtagaaga 4680

ccccacctcg ccttcgacgt ttagtagatt actccgaaga tatctggcac tgatattcta 4740

tacgcaataa gctgctgagt tatcatttgg gttcaagcca tttcgatctt tttcgccgag 4800

aaagacgggc aatggcacga ttaaagttca aatctgagac attggtgtgg ttttactgtt 4860

tggtctacca ggggctttgc aaaacaaact accctgtaac tccgtgttcc gaatggggtg 4920

aattcgtgct gaatggttca tcgaatgata tattgtggtc aaatctgatg gacttgcagg 4980

caccgagcga ttaggatgga gaactgaggg attcaggaag cgagatcgag atctttttcg 5040

ggcataagat cgcctcgtct aaagccatgt catactcgtc tgctgtgatt ggtgaaccaa 5100

ctgctttgct caaatagagc agacatcctt gaacgacgga cgtaacagtc cctgtcaaca 5160

gggttgttat accgagatag aaggggattc cttgtgaaag ctggggaaga aaccatatcc 5220

atccttgtgc tacaggcgat gagcctaggc atcctgtcgg ctagcggttg gttgtagctt 5280

gtgccgttcc tgtaggaccg cgcggtcatg tcgcttcaag ttctacgtct tgtggcctga 5340

acgcagtcgt gcagctgcac acggctccag agacctgagg acagacatgt ttgtcatgcc 5400

cgactccaga cctcgcccca tcacaatgga gccagagact aaaatgggag tggatggtag 5460

tattctataa agtcacctaa ggcgttgtct gtagaagcga ctt            5503


<210>       5761
<211>       7973
<212>       DNA
<213>       Aspergillus nidulans

<400>       5761

caacactccg tgaatatagt ttctctgtcc actcaaaggc tggtcatttg tgaaatttgc     60
```

11773

tgtgcacatt atggagaagc tgcgcgctat agggttgtgt ggctagcaca ttgttattgc 120

aaacagctag caacgctgtg catgtcgcta cgtcctagta gctccgctca gagtatccgg 180

acttcgttcg ccctcatggc cctcatgatg ttggagatca ttgcgatgat ttcatacatt 240

gaactgatca tcaggagaat cagcgttgtc ggctagtacc cccttataga acagccaggt 300

ttctgtgcca agggagtaca aataagagaa cagtcttacc tatcggctac tgcgaggtaa 360

actcgctttg gagcacacac ttcgggttca attcagtacc tatatccctt gaaagcgcct 420

cggcaaagtc accggcgccc gcacaattgg ctcctcggtt ccaattgagc atttctcctt 480

tctcaccatg tttatgccaa tacctgaaaa cactccttat caaccgcaat cttctcctag 540

gcccaagtca atgatattgc aaaatcttct cagacctctg ctcgtgccgg ttggaaccga 600

cattataccc catctaccac accgataacc cgaggaccgg cctggtcaga gataatcgag 660

gttccagccg atatactgga tgtgccgcgg gaaagcaata caccctttga gcggttgtgc 720

agtgggtcca cgagccgctt ctgtttactg tcatggatag tttttctaga aggctgatta 780

gttttaaacc aacatttctt gcgcatgtag cgggtggctt attgctcaat accacgcgca 840

ccaggaatgc ttgcctactc ttgcgggaca ggggcctgtt agtgcgggat gacgaagaag 900

taagcgaagg tgtggaagag atgggttagc tccatgcgta gcgatgaata tttcgcttgc 960

taatatctac taggaggaaa gactatgcta cgcgtttctc ttttcccccg ggtctagaat 1020

tttattcagc aataacaaca tctttcccgg ctacaagtta ccactatcca tctgacttta 1080

cacgcgttgc gaactaatct tcgttatatt gctgttatat cagtaacctg gagctgtcag 1140

catgtccata cagctaggcc ataataactg attggtaata tgccaattta tcttactaca 1200

acgtgaacat aaaactatcc tgcaggggtg agtaagttta ttgccttcac ccagtacttt 1260

agaaacctcg tttggagatt cgagtttagg cattggatag actcaaggcg agtgcctact 1320

aggtatgtgc tcaaagccga ctacttccta ctagtgtcaa tactactact actaccacca 1380

ccacctaaag cggctaggac caggaggtct cacgatctac ctcatagctg actacacttc 1440

aaagctgttt ctgcgcgatc aagcgcaaag catacagatg gtcaggaacg caatccgtaa 1500

atgcaatagt gacgaaacaa gatcgctgaa agaacctcag cacagcggag accatgcaaa 1560

tggaccaagc aaacctccaa tgccagcaac caagatgaag cagttgagcc gctattaaaa 1620

gcccattcag gcagccaaaa ccctacaatc gacccctctc tttctcaatt ccctgccaac 1680

11774

```
attcccattc cccacctcct caacatagta cggttgattc ggcaatcgaa cctcccatct 1740

cttcctcccc ggtaaatgta agcccctcag tggctccaaa aacaccggca gcttctcgac 1800

cggctcgcag aaccaacttc cgcttaggtg taatgtgaaa ttctgtaggc ccgccatgcg 1860

cgttagggcg ccgcatgtct cgagccactg ctgccggcct gcggagaagt agactgattt 1920

cacagggtct tttgtgggca gccagtggcc cgggaacgcc caggagagtt cgacgcagcg 1980

gatggagtcc cagaaatcgg gggggattgt gggatgtagg tatgtgaggg accaggtgtt 2040

gctgaattcg aaagtgttga gggagtagag gaggtgaatg gattcggcat atacctgctt 2100

gcacactatc gggagtgcga ggagattgct tcgcatcagc atttgcggag atcgagatcc 2160

ctctctgcta ctgctgctgc tgctgcaaca gctggaactc gatgaaggca gtccaccgcg 2220

acagatatcg catgcttcaa ttttcgtgaa cacgccggga catacaacat gtcccatgcg 2280

tctgtctggg cgctggatga tatgaatgcg catgccgccg agaaccagtt cccagatcat 2340

cagacgcagc tcgggcgaaa gcttcgacag cagcgaactc tgcagttgga cgtcccagtt 2400

gaatcttgaa tcagcttgct tttgctgcgg tcgcgactgg ctttggcttc gagtagagac 2460

cgcgctctgt ctgcgagagc gagggagggc cgcgggctta ttgtctggtt tggatgattg 2520

atttcagtct tggctcgaga caatgaagat gggaagacga agactgactt tggtaccgat 2580

gcgctaatac atcctcccag gaaaacacgc cctgcttgat tcttgccatc tctgctgggt 2640

tggtagggga gtggggttgt tcggaaaggt aacggttggg agcaagtcgt acgatgatga 2700

ggtaaaaatc cgcgtcaata aatcgtatta atgttcacgt cgaacagaag acgtgtcggt 2760

tcatgggcct cggggcgatt gggaaaacac aaagtcgcaa tcaggcaaga agagttgggg 2820

aagtgttgtt tgtggctgtg aggggacagg aggggacgag aggggggatcc gtgccttgtc 2880

tatcctgcag tatccgagac ttcgggcgca ggacaagata acagcaaaaa agcgagagaa 2940

ggacgtttta aagccctcat ggtgaacaaa caaggaggtc gaagagtcgg tgaggctata 3000

tcaaaagggc ccggggatgg tcgtctttta agctgagaga taaggactca gcaaacctct 3060

aaatgcctag gtatctttga taaggtcttc gttcctccac cacgactctt gcggggaaat 3120

tcggccgtcc aaccgatatc gatcgactcg ccggtcaatc gctaatactc cgttagtctt 3180

taaaatagaa cacccagggt taagctgtcg ccgagatcgg agacaagggg gcgtcccgtc 3240

ccgtcgcgat tgataacaga gtacagtata tcataagcat atccaagggt agaaagatgc 3300
```

```
acatgtgatg tatcaatatt tacaaataaa cctgaagtca cttgctgcat gataaaagcg 3360

atatactaga ttggtaagcg agcgcccgag aaagatccat agcgaatatg caatgaaaga 3420

ctggcaactc aactgcagaa acaatgcgct aagccggctg actatgcagt aggctgtgaa 3480

gcattggccc ctaaggtgtt ggtcggacaa ggcgccttca gtccctcgga cagcagcgca 3540

agtccagtcg catcgagctg gtcaacagtc tcctctggtg ggacaacccc cacgtacgca 3600

ttgaagttgt atatgccgca aacacactcg tccacaatat ccttcagact tgtaccagac 3660

atgacggttt caccatcgcg aacaaccgaa aacgtctgct ccccgacccc catttccatg 3720

gcgaatgcgc ttgctccagc ggatgcctcg aagctgctct cttttgcccc agatgtgact 3780

tggatcgtgg ccggagacgt gagaagcgag acaacaaaga tttcgtcctg cataatctcc 3840

cacccgtcag gacgcccgcg aaagaagttt ccagtcgagt tgtcagggct ccgcccatg 3900

gtggtgtctg ttgagtcgca ctcgacgtct ttgggcgtcg gccggtacca gtagatcagc 3960

ttctcgtctt gaatgtactg gtccggcgag gtctcgcctg ctttgtaggc ggcgatgaag 4020

gggcgtgaca tttcgagcca gccattgtgt ggcctgcaga agtcaggatt atggtctgtc 4080

aaagtggatt gaaaatgaaa gaatgctgct cacatgtcca ttacccattt cgaagcccca 4140

tcgtctgtgt gcggagacga caagggtcca atgtagtgcg actctccgta atcgttccag 4200

gtaacgattt caacaaaccg aggaccgagt tccagaatct ctcgccagcg gttgtaccaa 4260

agcaaatcac cgggaaacac ccagttctta ctgtacgata cctcgcctcc aaaatgggta 4320

aagaaccagc ccgatgcagc tatcctcatc agccacagtg ctcgagagcc agaacatcaa 4380

acttacgcgc aacataaggc ttgtcccctа gggcttcagt atatgcccga tcaccatcgg 4440

caaccgtcac attggcaccg ggcttgggtg ccttgttgtt gccatcactg tcccaggcca 4500

tccaattcag cgcaccgtca acatcgccaa agtcgcccat gttagggtgg tagttaggtg 4560

cccagaagat gtcagttcca gcgctagact cgatctgcgc tacgtcgata ccgtctcctg 4620

caaaggaaga cacaaacact ttgtcgtcaa ccataagctg cgcaggctcg cttgcatact 4680

gagcgatctt tgatccgacg gcagcggcct gatcggtgtg gtaccaattg aaatcaaacg 4740

agatgaagac cttcatatcg ttgcgggcag ccgactcata ggcgtagccc agctgcgtgt 4800

cggtgtacgg atcgactcca atatttaggg caaatgcgtc gatgcctagg tctttcgcta 4860

gctgcatgtc ggcgtcgtag tcgtcggcgc tctcgcgatt actcgaaatg ccaatctata 4920
```

```
ccagttagtc tcttgccaat actcgaaggt tttgttcaag cttaccatga agtggcagaa 4980

cacaagtctg tcggtggtct cgttggcccg ggcaacattc ttctgaactt tagggacctt 5040

gagctgcggg aaggcagagg tgcacgctgc gagggccaaa aagagcgttt tcagatacat 5100

gatctggacc gtcagtttcg ttcaggctct gcttgggaag aaactgtatt gacttaccag 5160

taataggctt aggtgagaac aacggagtaa atgatatgaa gcgagtcaaa tctgataaag 5220

tcaatagcta tcagcaaaca cccaagcaac cctagacata agaaagctca agctactcac 5280

tacccagaat tcatcagctc accgtctgtc tttgtttcga tcctccacat caccaccaca 5340

acctccagtc ttctccagtc tttatacccca tttccaaccc caacgacaag aatcttatcc 5400

tcaatgacaa catcctaacc ccatcacaag atcaatatcg cacatgaaac cagcaaacag 5460

cgaggctagc cgaaattctc gtcccgccat ccaaccccga aactggaagg atgccgatca 5520

attccagata gaagcagagg aggctctcca tctccatggc gggggttgtc aagcgacggg 5580

gtcaggagat cgaggcgaga tcgctagcga gtaaaatcgg cgatgagatt acacagggat 5640

aagagtgaaa aagagttgcg ttaggtgagg agtaggaggt gactcctggc agtgatgacg 5700

ttggcgttga gagggtggag gacgaaaaga atgttgttgt ggcttggtgt tgggttaagt 5760

cggaaattgc cctagccata gacgtttctc tgccttcccc agtctgtact gctgcatacg 5820

attctgttgt tcctccatac tcatgctctt acgccctccg ttagctctca acaaacacag 5880

cacgcatatc actatcgtct taccctccac acactggccc cgtctccaac agctcctggt 5940

aggctttctc cagtattcct tcccaaactc aattccaggc tgctgcaagc gatcctatca 6000

atagaccgcc cgtcacggat tactcccagt ccgacgtcgt ccatccctgt tgaatgggtc 6060

ggcgtcttgg gggttactga gaagactccg tggccaggta tatgcgtacg tatagagagt 6120

ccttgctatc tacacgttgg tcaggactag tgccgcttct atggtgtaaa ctcgactccc 6180

ctgtctcata gacccccgat agagcacaac ttacaaccct atgcaaaggc atgggcatca 6240

gatggatgga atggttagcc cggctctccc aatcccgaga tgtctctgga gtcatcgagt 6300

accgacgcca ctgtacgcat tgaatctaat tgattcgact ccgcatctac tgtgtaacac 6360

tacccatgct agtcggattc aacgcccggc aatgtacgag gagaggctct acctaccata 6420

gcctagccat gtgatgggca gccggactct aggcttgttt caggtctatt cagctatcct 6480

tggtatgaac acggaggatg cgcatgaaga gaggtgatta gacatatcgg tgtcttggta 6540
```

atcaatagcg tgaaggccta gaaaacgggc gttctgagag aggatcagaa agaaggagtg 6600

agatgatcac attctgatta cagataaact gcctaatctg ccaccggggt tatcctacgg 6660

acctgcggtt agcgatggcc tctacgatta gctgctaaat gtccaaatct tgtaggcaga 6720

gacagatgct atactgtcct acaccactgc aaacgccgaa acgtagctga ccgagctatc 6780

ttcgacaatc tccccaatat ccgagctgcg ctcgtaacga gcaaagtgaa acttgccctt 6840

tcctccttcc tgctttccag cggcttcaat ggcagccata ataacaccga ttgggtgacg 6900

accacagact gtattcccag ttttttcaag aatatcggtg aagcgctcag tctttcccgt 6960

ggcaatggcg gccatggtcg caatgtcaaa tgacgagata ctctcatgga taagcggctt 7020

gcctctccgg atggggtccc gccgcttgag atggtagccc gcacaggcga cctcaatttt 7080

gctttcgatt tccgtttcat catcttctgg ctggggcaaa tcatatgagg ataacggcag 7140

tctcgggccc ggcacggggg cttgaggaac gtagtatgtg tatcggaagc ggaggcccca 7200

gtgacaaaag tccgaactga caacaaatgc attacttggg tcttccaggt atggagcgag 7260

taaagcgcca aaggcggctt ctgtcgcttt agaggtgctt cctaccaata ttggtaccag 7320

cgggggatac tctgcggctt tcttatccgg gtgctggagc tgcaggaggc gatggatata 7380

tggtaggtga agttcgatgc tgtgttcgtc ttcatcaact gattgagaca tgtcttcgaa 7440

cgcgatcgtt gagccattgg acttggccgc tggtgtcgag cggagtttgg cgataagctc 7500

cgtatcgagc gggagggggt catcagatag cggggtatag tagccggtca gcgtaggaag 7560

ggctagactt gtgaaataat ggtgatgcga agggccgaga acgaatattc gtttcctgta 7620

aagtgcttta gatcatgacg cctcctgaga tcggattgac tcacgctttg dacaaatcca 7680

gagccttgta ggcgtaggcg gcgcaaggtc cggaatagct gtatcccgca tgactgggat 7740

tctgggatca gtatgtgatg aattagaatt ggtacttgcc tgtacatacg gggcaatgat 7800

gattcgcgca ccaggtgctg gcagagagcc caacccttca agcgtaccag gtaccctgtc 7860

cagccattga tcgagctgaa gcgcgagagt ctggcggttg cccgaatacc aggaaccagc 7920

gtgagacgca gctctaaagc ccattattac tgttcaatag atctgtagag aac   7973

<210>   5762
<211>   8660
<212>   DNA
<213>   Aspergillus nidulans

```
tccgccattt ggccgcatcc gttcttcggg ctctcgaatg gtatctgtga cctcatctga    60

cttctcgttg aggcgcttga tgagcgccgc agtctcagag atatattccc agttggcctc   120

tcgtgtgtat cgctgttgcc ggctacgacc gtgaagcgtg attgctgcta caccagaagg   180

accacagttg agcatgctgg cttcgtgacc tccaaggatg agacgctcga ccagcttctg   240

tgcatttgga gtgttatccc ttgtacccgt gcggattttg accgtgattg ggatctgttc   300

tgagacagcg ttcattccac ggagcatttt ctccagtttc gaaggagcgt caaggagcgc   360

cgagccggaa ccttcccggt agagaagatc aatagggcac ccacagttca gatcgataac   420

gcggagattt ggagtaagag atgacagaac ctcggtggcc ttcataaccc atcggtactt   480

gtttcccgct atctgagcgc cgaacttcat atctttggaa ttgtcatagt cttgtactac   540

gcttgcgcgc gcagaaactg ttggtggcaa agcttccgtt tcgtgtgctc gcatcaaagc   600

ccactctggc ttgtggccct ggattaatgg catactgaga gccatctcag aataggtgag   660

ctgtgcgcca agttcaacac aaagccttct gaatggtagg tttccttgcg tagtcagagg   720

cgctagagcc ggggtctcag gcccaaagta cagccttctc ttctcagatg gcataaaggg   780

tgcctctgta tatgtcgctc tgttttcttc cttctcctcc ttgtcttgag cagtgtcggg   840

atgagcatcc ttgttttgtt gccctccatg gaagtacttt ccaactcct tagatgtcag    900

gtctagccaa tcggagtatg catcagcccg cggcgtagac cgctgtcgtt ttgcaagagc   960

tatttcattc gctgccgatg gcggatatac ggaaccaatc tcacctgcag agggaataac  1020

cggcggggcc attatttctg cgctcctcgt cctcaaccaa taccaactcc tttctcccgt  1080

cttcagttac tcgttcaata gaatgagagc caacgaatcg acacttccag cccgcatcac  1140

atttccctcg agcgctccat acaggacaga ctccattgaa tgtgttaaga tcctcccgct  1200

tatgctcctt caagtatgtt cgcaagtcgt gttcgaaccg acatttatcg ccaaacgggc  1260

attcagccgg tgagaattcc gggctgtata ccctactagc acagagccct ttcgaatcct  1320

gtgacctgcc gaacgtgcga ttcttattct gaccagtggt cttcttcttc tttcctttct  1380

tctcgtcttc acggtcctta taggcggcgg cttcggcggc atcgtctgtg cttgagactg  1440

cggcttggcc ttgtttgggt ttggggatga gaaacctaat gataaatcag tcagcgcacg  1500

tgcgtaagcg caaagattcc actagaactg catactctgc cttgatcggt gccacaccct  1560
```

```
ttagtctcgg cggagcctgt ccattttgct ggtcggaggc aggttcctcc aatctaacct 1620

tcttcaacgg cggctctccg gttgaatcag tgccattggg cagatcctgc ttgggcacct 1680

cgacatcgag attttgagct gtaccttcca ttttcttaag tgacggatct gctgagaacc 1740

ggtcccctct aggatcaaaa aatctaagct agatggggta gcagattaac aggtagattt 1800

cggcttcgca tgcggacaat ttttgaagac ccgccgcgga gtagcccatg gtttgtattg 1860

tttgcatctt tagatgtggc gtcggtggtg gcggtgtcgg tatggctatg ggtcggcagc 1920

tgatgagtcg cgtaatccgt gtatagagcc actaagtact gtcaatttgt caaggctgtt 1980

tgctcaaaag gattactttg agtattgata aaatggaggg aactcatggt cagtaacttg 2040

accatggtgg tgtcaattgg ccgctgtcgc tgtcccctaa cagggcgtgc atgcccacag 2100

ggcacgctaa ggcgtaatct tatgattctg gtatagttct agcgtcaagc caagagccaa 2160

tatactcttc cccgtcaaat ctttatcggc cggtttggta cgattgacgg ctaatctcat 2220

tcccatcctg tattcgcgac aatgccacgc tgccggtatc tttcgagtct aacactgcgg 2280

tcctttggtt cgcacctaag tcccactgag tctggcgatc cctagtccaa gagctacagg 2340

gtagcagagc tgagggcccg atttcgtagt atccttgagg acgcgtggtc aatacagagt 2400

ggtcaccatt caccgtttca cgaggagtga tgcgttaggt agtctgtaga tcaatggagg 2460

gtcgctccat tggagagttc agtagtcacg cacctcgcac cgagccccat ctcgcacgct 2520

tgaatcgagt cggcttgact ggatcgattt tccaaggtcg ttatccatca acccctgaca 2580

gaagaacgtt gtaacctcgt tgcgtgcaca ctactgaata gccgaatatt gcatcgccaa 2640

atattggcga agctcggcat acaatgataa cttgatttta aggattgcgg ccatgacaac 2700

catgggacga gcccagccag aatataataa taaccgtaat cgactcgaat cctatcttag 2760

aaccacaagg gcagacagtc tgagataatt acagcttggg attcacaagg gggcctaaag 2820

gtactaaggt ccctaaggta actaaccgga gacgaggagc atggttactg cacagtagcc 2880

ggcaaaagag ccaagaattt gggacgcctt gcttgcccct ccactaccaa taacccgatg 2940

gtatctcgat aagcccgggg ggtgcagata cagtggaggt gaagaataca ggtcggttca 3000

acgcttcttc agcccctacc agggtcggtt cttcccgcct ggctggttac accccaaaca 3060

tcccaagcat cccaagcatc ccaagcattc caaacttccc aaatgacagt caccacagga 3120

ataataatgc ccatgaacgg aactcaaaaa ttgggcggtc aattagcccg gggtctgctc 3180
```

```
tgttaactcg gtggttactg ggctgatgcg ggaaagcgta tgaaacgccg agtactcgtt 3240

acctaatacc taagggcatt ctggaagcac actagaggcc cttagactga tggatgactc 3300

cacctttagg ttcactatac atcattacat agagttcacg tctgctctac gtaatctcct 3360

cagagcccag agacgcaggt agcttccggg atagttctat tctgtatgtt aggaacccct 3420

gagatctgat actcgggagg tgactcacag catcaaagtc cgctcgcagc gaatccaggc 3480

actgtgaagc tatccaggtg agcggtggat gctggcgaat ggtaatacgg cgtattgggc 3540

gaatcaacta gcgccggctc ctcttagcgt ttcgagtcga cttcaaccat aataataatt 3600

tccgttggca accaccacct tcgtaccttc tcttcgcttt acttttgtcg tggaagtccg 3660

gtgactatag gtacgacctt attagcccgt cttcaccgtc attactgttt tcgccggcac 3720

tattccgtct cgtctatttt ccgggatccg tcatagagac tcgaggggtg atttgatacg 3780

tcccgccttt tccgaattcg tcactgcaag cgggacagtt tccgaggtgg actttcgcgc 3840

gtgctcttga tgagacattg aaccctctca tcatccgcgc ctctgacctt cctctccctt 3900

ccgtctatta ttatctttcc tttaactggt ctcgagtgct cgtcgcaagc tcgctccggc 3960

tctggttggc ttgctgtcgc gcggatcggc cagtagaagg acttgaccta tcgtggcttg 4020

tcccataaca ccactctcct tcactgcgcc taaacagata acatcgaatc tccctgctcc 4080

ccataattac ttaactcgtc aatcttacat tccttctact ctggccttct gatagacaag 4140

ataacatcat gaatacaacc acaccgatcg acatcgccac tcggcagacc tcggtctccc 4200

cgccgggaca gcaggcttcg aacctcacat cagctcttca aaaagcaggt aacaccgagc 4260

gcacaggcag tatatcccat gccaacggtg taccgatcag tatgtttaag gcatctgcgc 4320

ctcggaaaga ctcgatcggg gcggcttcga cacaatgggg aaacggtacc aaacctatct 4380

cgatgtccgg atcaaaccgg aatcaacaac gtcgtgagtc gttagcagga agcttggtgg 4440

gcggtatgag ctggggtggt gtctctgttg gcagctggat tcgcgatgag taagttggtt 4500

ttcatacgtc ggtgtccttg ccgcatgct gatctggatt gactgcagca tcatcatggc 4560

cggcacctct cctttcacta ctttccagtc gccttcgttc cattcgtcct cttatctgcc 4620

gaaactcgaa gcgaacttca tgcgtgactt ttcctgctgc ggtgtgactc tgcctaccct 4680

tcatgacttg ttacaacact atgaagaagc gcatgccacg aaatcaggtc accggccaag 4740

ccagactgat aaccgcgctg ctctcgcggc tgcggccatt gcacagcaaa atcaacagaa 4800
```

```
caataaccag aacagaggtt tacagccaga caggacgttc gacatgcaac ggaagatgaa 4860

ccagtcccac actccccagc agcattccga catggacact attgacgata tggagttgga 4920

tgatgcaatg gacgatactg atgcgtcatc ccagttcttc acgccgcaat ctcgggatcc 4980

gactcaagga ggatttggaa ccccgaatcg tggagtgcct aatctgaatt tatccatgct 5040

cccaagtcac cagggcttta agagttctca accggggact ccagttgcaa ccggtcttcc 5100

tctctcagtg cagaataccc ccaccgtttc ttctgtcaag actcctactc tgatgccgaa 5160

ccccttcag aactcacagt tccgcggcac acccgactcc tcgactccag gcacgcctgc 5220

agagcttgac gacagcatga tcggtccatt cggagaattg tctatgcaga atgcaatgat 5280

gcagggccag ccgcaattct cgagatttac cggaaataat gatatggtgg atctgtgtat 5340

cgatgagcct gccgaccgac aattcagccc cactggcgga ataaatcagt ctaacgccca 5400

tttcaagctc agtggagcgc agtacggtcc caatagtgac attgctaggc ggatacgcga 5460

gcagcaacta ctggcaggcg ttcctgacac cacttctatc cttccgaacg aagagcctaa 5520

accttaccgg tgtccagtca tcggatgtga gaaggcgtac aagaatcaga atggattgaa 5580

atatcataaa gctgtaagtt gtctccaaca gattctggta ctgcaatatc actaactact 5640

tatttagcat ggccacaaca accagcagtt acatgacaat gcagatggca cattctcgat 5700

cgtcaatccc gaaacatccg ctccttaccc aggaactctc ggcatggaaa aagagaaacc 5760

ataccgctgc gaagtctgtg gcaaacgcta caagaacttg aacggcctca aatatcacaa 5820

gtcgcactcg cctccttgca accctgattt ccagcttgct gccgcgcgta gtcttaacta 5880

tggcggtgga gtcatgcagg gacaaaacat taatgttgcc ggagcgggcc tacctggcat 5940

tggagaagaa ggtcttttat agaaaccatt tttcaaattc caactttttg cctgccctta 6000

ccgtttcgat tatatgaata tctacggcct aattgcgcga caatacgatt taatgaccgg 6060

ttcggtggtt tggagtttat ttggtatgat taccgtcaag agtaacgaag tggctctctg 6120

ggtctgacga tacccttgaa aagaattccg agactcttaa cggttttttcg gtgcttctag 6180

aacagacccg tctgatttca tcattcggtt tccatacttt ctccctcatc ttttttttc 6240

agctttttt tcttgcgttc tcgcgctgct ctgctgttct tcgctcttgg cttctgcgga 6300

tttccatgac atatgattcg gttcttctct taccatctac acttctttca agcttcatcg 6360

aagaaccggt cgaaggcgag agaacgacgg gatagatgag tttaggttgg gttgggttgt 6420
```

11782

```
gttttgggcc acctacctag gtctggtgtt ctcgctacac ttgtctcctg gcggacgaca 6480

aatggttttc ccgtcggcgc tgattgcgaa tagacacttt tgtgactcac cttggctttg 6540

cttcgatctc tgtttggtat ggctattccg ccttctcgtg cctttctaac tgtacacggt 6600

gtattggaga tctagttttg cttagttgtc tgtgtttgac cctgtttgat tacctggcgt 6660

ttaactttct gatagaaata ttgctattac catctgagtt ccaaccctct tacagggttt 6720

tcttctcatg ctctggttgg tgcggatgtt agagataagg aaaagttttc agagaaaaaa 6780

attgagattc gcctgcttca ttgaagactc tccaaaagac tttgctcgta ccagaatacg 6840

gactacggat tatggtgttt gagacagtgc actgcatgac ttggtaggac ctagtttcca 6900

ataatttccg ccgcccagcg tagcttgtac atacagtaac gatacgcaaa ccttgcccat 6960

agacattgaa ttgtttagtt tagttggtag atatttctag tacacaagcc atgggaagag 7020

aaccaccgtc cgcctgcaca agcgccattc accaaaccaa tcaggagaaa acatggctgc 7080

ctccggtcgg caagataacg aaccagtaag aaataaaggc gaacgaccaa gatgggaaca 7140

tttggtttgc tgtggatatc tggggttgat gtttcgtttc attttcgtaa aaaggtaaag 7200

caagattcac tgagcgaagc gacgcccaat aattgcttcg atcgtttagg ttactgctga 7260

gtatatgacc ggttgctttt ggcttcaaag gaagaagcgg caaacaaact gataggagat 7320

ttacaagtcc agaagggtat gggaaggaga atgaggaatg aaaaaggtag aaaatttggg 7380

gaaaccgtgg cttgaagaag ggcataacat ctaccattca aactcgccct gacctttgtg 7440

gaagacgtat ctggagaaag ttaatggatg ttcagtccaa taggtagaag tgtttaaacg 7500

tactctttac ctcctgtggt cagaattcca tccttcaaag tgcatttcca cttgttcttg 7560

actcgttgga ccttgtcgta tgtgcaaagc atgacttgtc cgacggcgtc atcatcctcg 7620

tcatcttgag caaccaggtc gtcagggtca tcaaggtcag aattaatagc gtcctcatcg 7680

tcttcttcct ttgtgtcatc gccccctggg ccgtcaaact gagctttgga cccagacgaa 7740

tcagcagagg cgaaacgcgg agccttcggc tgggattcgc gctcatccag aggaaccatc 7800

agaccgcctc cttcaagccg gagcatttgt tgcttgaggt ggtttcgaag cgctctgtcg 7860

ccctctccgt cctgagcagc ctcacgtctc cgcgtgactt ctgccttcca ttctgataat 7920

gcatcgctag cggtaccgtc ggtttgggca ttgcttacag acgggtgtga tacagggtgg 7980

tagcctgtct cttgcttgat ttgaggattt tgaccattcg gcatctgttg catctgctgc 8040
```

11783

```
atttgttgca tctgttgcat atgctgcatg ctagaagggc gcggtaatcc cataggtgat    8100

tgtgattgtg cttgcatctg gctaactgag ctggcggccg ctgcgccata cctctgctga    8160

atcaggttgg ttgcgcgttc gcgctgactg cgcattcggc gggacggcca tcatatgact    8220

catgggggt aacgcaggat ggccattaac acctggttct gtcttgattt gtggagagtg    8280

tcccataggg tggccgccgt taggcccgac tggagtttga gcttgaaggg gcggaccgtt    8340

gggaggcata gactgtgggt gcgaaacatg ttgcggattt tgtagttgtg ggtgctgagt    8400

atgtgactgt tgcggtggaa ggtgttgctg ctgatgcacg gaggcttgag gagggcgagg    8460

agcgttcgaa gggaccgtcg cagtaggcgg aagtacctgt tggttctggg tttgagctgg    8520

tgcttgtggg ggagcaggat cccatgggaa atgcgcgacg ccgagagagg agagtttctt    8580

ctgccagctc tgctaggata ttagccacca cagaagatgc gacgatttaa aaaagcaatg    8640

aaagcaaagc gaatatcagg                                                8660


<210>    5763
<211>    4838
<212>    DNA
<213>    Aspergillus nidulans

<400>    5763

tggtatggcg agcgttaggg gctccaattt gacagccctt tgagcctgtc gctaccgttt    60

accaacagac gcttcggccc ccaaattcca gtgtttctta cacggaaatg cagctgaatt    120

agcccattgg ccatttgggg gctaactttc cgtcccgccc gggctttgcg tgcttgacag    180

ttggcagttc cagccccgcg ttagcattac aaactcgtgt aattggcaaa ctaccaatga    240

ggctgaatat tattgcagcc tgcgactatc ttttctggct gaggcatgag ccgcatatcc    300

gctgtgatcc aacgaatccc caagtacaag acagtccac atccgcatac tgccctgtat    360

aggatagggt ccgttgtgca ttgtatatat taatagcgag ctggggcgga aaactctctc    420

cggtcaaagc ctaattgctc atttttgaat atgcgacaat ttttgagcct ttgtgactat    480

caccactacg aaactcaagt cgtcgtagtt atacatagct aggtaaaata aaatctatat    540

attaccattt cctaattttc aaaaatagta attgtattgt aaatcaccca gcagctctcc    600

caagttgcgg agtttcctgt actccccacg ctccctctcc aatacgcttt ccatataact    660

tgacaagaac acctacagcg accgggccaa taatagtgtt gagcaggata gcccaaacac    720
```

11784

```
cggtaatgaa gccgtcttca ctgacgtatg aggtttcatt atacccgatc tcgataatca  780

agagcccaat ttcgccgcgg gcaaccatgg ctgagccgag gaggagacct gacagccaga  840

ttaccttggt accttctctt gcgggttttt cattcgttcc atcttccggt tccatctatg  900

cttcttcgtc tctttgtctc cgcttttgat ttgaagaatt aggtggtcgg caaggtttcc  960

catgtttgga tcgagttagg gcttgccaga ggggtaccca gacaccaacg atgaactgcg  1020

gcggtcagta tcacaaaatg acgtattaag agcacagctg tctgcccacc ttggcgaaca  1080

ccataagtag tgtaaataca atccctctcc atatcctttt tcctgtccaa agctgtacaa  1140

acgggattgc gaagcctata ctggcaaaga acaacggctc catcaagtac ttttgcacat  1200

ccatcagata ccgctcaaag gtatgcacaa atgttggact cttgtcttcc tccctctctc  1260

cttcctccct ggtcatgacc acaaatggac cctcgggatt cttagaaggg atatacgtga  1320

ggaaagtgcc tgctagaaac gcgccaaaga ggatggatgt tcctgtgtat gccgctatcg  1380

atataaatgc gcagagaaca agcgccatca ggattatatt ggagatgtgg tcgtaccgcg  1440

caaagtggtt ttcgatgtat cggcggaaga gaggcgcgaa aaggtatttc gttacaaggg  1500

gagttacaat agacatgccg attgaagcga cgatgggccg gccgatgagc caacctaggt  1560

ttgcgtctcc gccttcgctg agtttaccta gatctgaaat gacgctggtg tctttttagg  1620

ggttgttctg aatgagttgg gaggagcgag tatacctgga catgacaagg ccaacaacgt  1680

cgtcaatgac agcagcgctc acgaggacag cgccaacacg tgtctggccg aggtcgacag  1740

tttttgatgc ggaggagatc acggcgaatg tcgttcctgt cattgtcagt ctgcttgtcc  1800

ctgtttacac agctagggga actaccaagc gaagtggcag acagcgcagc gccgatgata  1860

aacgtctcaa cagctccata tccaaagccc aagtaaagca gcagatatga gagtccaatc  1920

ggaaatatca caccggtcgc agcgccgagc atactaagta cgaaattctg cttcagcaaa  1980

tcaatgcgtg caccgagccc gcctgagact tatcagcacc gcccgtaccc acatataaca  2040

ggtgaatgag taggcaagag aagtaccctc gaagataatt aaaatcaacc ccacatatcc  2100

cagggtgata aatgtttcct gccactcgat ctcaaggata tcggcaagcg gtcgcccata  2160

tataattccc acggcgatgt gcccaattat accggcgcga ataatcttcg cggagatcca  2220

ttctgccaga gagaggaaga gaaagaagga gattattacg aggatttgga cgactagata  2280

atatcagttg ccgtagttaa tgtaggcagg ggctcatggt gcgcactgct gggctcatgg  2340
```

11785

```
tattgtacaa aaccaccggc catgggagct ggttggagta tattggtaag taagttgttg 2400

cagcaggaga aaatcgttct cggcgcgatg cttcggcgaa atctttctg cttggcttca 2460

atattattac atcatggctg ggttggccaa gggtattagg atccatctac cattttttccg 2520

ggtccacagg attccgcggc tggaaaccgt gattccagat ccgaatagta gtctttttttc 2580

cacgctttac catagtatta tgcacagact gtattttat ctcaatgaga atattattcc 2640

gggggggttt gctcggtgac ttttctccaa agtagatcac aattcatata catcactaac 2700

cgaggtactt tataatttgt ttctctatat ggtctaatct gttcttaccg tgcgcttttt 2760

ggtaacaggc ttgaggggtt tattctgcta ctgatgcaac atggaatttt gagttagcaa 2820

ggaaaagtca gagcttacgg cacttgttgg acgagcaagg gtcatttcac atgtactatt 2880

cgcgctcata gctagccgcc gcagtttgcc aactacatag aacgagaata gtagctgcaa 2940

cccttagcgt tcatgctaca acgcgagatg accatatacc ggtccttgta cgccatatgg 3000

acgtagtggg ttgttctcta tggtcctgtg ttttccacgg agtcatccga aatatatttt 3060

atgcaacaag atggaagaag gtttcccagt ttccatattc gactgacctc tggattaggt 3120

actggcagcg accagaaata caaggctgtg caaagacatt ttcaaaccag caaatagtat 3180

agcatatcta gtttctcaag tacagggtgt agaattgagg gagaaaaaag atcagcctga 3240

tcatcgaccg gattagactg ggcttttgtt tggaatatat acacataatt ttcaaagtat 3300

aagcatcgaa aggggctgtg gtttagtggt ataatgttcc cttagcatgg gagaggtcct 3360

gggttcgatt cccagctgct ccatttttttc ccacttttttt agttatgtcc gtatttatgt 3420

tggcttgaaa agacctctga atataagctt aagacaagtc acgtgttacc attaatgggg 3480

ctgtggttta gtggtataat gttcccttag catgggagag gtcctgggtt cgattcccag 3540

ctgctccagt atttttattg ttttttccat ctttcttttta atccacttga tcagctgtag 3600

cgcattggac gcggcaagaa gacgtaccaa gagttgcctt ggttatccaa tgcctgtcaa 3660

tttataggcc tttatttctt ataaccccgg ggcccaacat cgggcaaacg tagtgactga 3720

ctggttgagc agccaccggg cgagtagaaa aagagacagc atgtcacaaa aaggtagtat 3780

gatactagca tagctatcct acggctctgt gtaacaaggc aaaaagacaa gggtagaatg 3840

tggaaaatat gacatgccca ccgcaaagca atatactgcc gagcggacga tgcaaagcag 3900

catactcacc ggtgcattca gcatctatac tctttctggc agcctgagat gcacagtggt 3960
```

agatactcaa gtgcttccaa acacacatgg gtctactggc cgtgccagaa accgactgct 4020

acatccatat tggatgctca agcattctat gaataacaac atttgtgacc ttaccgtgcc 4080

aatatcctca catgccagta tggaggggat acaggggaaa gactccgcca tgcgggaaaa 4140

ctcggcaagg tattgcaagt aggttcgcat attatcatca agaggccatg gttgacaggc 4200

tgacacatac ttgaggagaa tttcatgatt ttgaaagctc aagccttatt actaggacca 4260

agtaaactac cacggaacac cagatatgac gggtgtctac tcggatttcc cgcctagatg 4320

tgagccctta agtcaaagct gagatgtacg acgctctgag tcgccatcga acctgttcaa 4380

atgattcccc gacaccgttc gaatcaaccg cacacatgag caagggtaga atcctggaag 4440

cctgcacctt aacccacata ccgccgactg ctttacactg tactgcccac tgatattcca 4500

ggtgttacgc taaatacggc gcttaagagg ggctggtcag atgatacctc aagcccaatc 4560

acgatgtcac agcctatata ccaattaatc cgaaaaccac caaaaaaaaa ttaatacagg 4620

aattaatgga tagacttgtg agagataggg ccttgagcct gagaagggag caatgaaagg 4680

tgaattacct gcatttgctt gtttatctac aggtggagaa agacgatgtc caaaagaaac 4740

cacagaaccc atagctgggg tcgcggaact gggatcaaca acacctttcg tttctaaccc 4800

atggtactta ggagcgtgct ctcgtagaca agggcggt   4838

<210>   5764
<211>   5384
<212>   DNA
<213>   Aspergillus nidulans

<400>   5764

ctgctgattt accttcgaca agattcggtg tgccaacatg dataggtcat gcaatacgaa   60

cctaccaata cgactttta ctggagataa acatccgtac cttatgtgct catctgccca   120

cctatggcta tctttgttca ttttgttgtt aaaaggccca tccatcctcg cattgggaat   180

caaggactcg acaaatccct tttaattcat gcccatgccc taaaccgtct tgttgttctt   240

ttgcgagctt ggacatgaag gtccctgtga tagatcggtt tctcgattat atctcctcgc   300

ggattgtgtc tagaacttac tgccggtctc agacctcggc aactcagcag tgagttgtga   360

aaggagcaac ttggccctag ctaatgcccc tgattgcccg ctaagtgagc cggggtgctt   420

gtcaatatcc ttgctggtcg gccttgtaaa agatggttgt cgacaatgat gaaagtctaa   480

11787

```
cagttcattc gttgacgtcg aaagggaacg agttatcgcg cctttaccca gttatgaagt  540

tttgctcagc agtcgaatgc caggcacaga cctaattcca aacgatgcac tcagtggatg  600

aagggaaagg cgatctcgaa ggagaaataa gctagagtgt gcagtagtgc gggagacttc  660

ttgggtggat aattagaata ctacactcta tctatactag tacctccacg gtgtcaccat  720

gtgatcgcga ctttcgtctt tggatagaca actcgcgcat cgtcaatccc agtctttctc  780

cctgatccag caactcagtc tagctacccc acaatatggc gcccaggagc ctaactccat  840

cactcctaga agcaacctct gcgctatcgc ccgagaatgg ttccccagat cgcttgatag  900

ccagaatttc ccgcgactgg tgcacgcagc agtacgtcca ttctccattg gctacactgc  960

gactacccat cctcaatgct aactaaaagc acagttctgt tctgggaggt tacctaacaa 1020

ccctgatgct gtccgccgcc cgcagattta tcaacagcaa cacagacgcc gtagccgaat 1080

atcccgaccc catccatgtc ttcatccagt tccttcacaa ggttccacct ggccaggttt 1140

ccgtctcatg caagatactc cgcgccacag cccgactgtg tgtcgtcaag gtcgacttgg 1200

agttgtctcg acagccagag ccggggtatg gcgaggcgca acaatcccct gcatgcattg 1260

cgattgctac tttcgccaat ttggataatg aaaagggcct gacacaagac tctacacaat 1320

cggagcagtt aggtgcacat ccactcccgt ctcgagagac agattgcgtc acaatcgacg 1380

accccgtggt agatgcaact cctgttactc gaaagctaca ctgggttgct cctcgctctg 1440

cggacggtct atggggtcac cggctaggcg ggcaccagcg cgaagtctgg ctgtcatttc 1500

gagacgaaac gccaatttca gatcttcttc atctggcgct gcttgcggac atggtaagcc 1560

cagcttcaaa aatccgacac tttggtccgc tttctggcaa gatcgcatta catgctctga 1620

aattaattag tgcgtatgga taagaagcgc taatgatgtc ttaacctata cagcctctcc 1680

aaccgcctgc aactcacaca gcgggcttct attcgcgcta tgccctctcc accctctgtc 1740

tttcggtgga gttcaaaaaa cggcccggcc cgagcacgaa atgggttttg gtacgatcga 1800

attcgcacaa ggttgtggac gggcggtatg atgtgaatgt ccaaattcta aacgaggaag 1860

gagagatcct tgcgctgagc aatcatgtgg tgtatatctc agatttgagg aagaactcga 1920

agagagcgaa aatgtgaagg gactgtttat gctaactctt tagccacagc cgttgtaatt 1980

tcattgttat tggagcatgc tcagtttagt ttttcttgtt ttctactcct tgtatcaatc 2040

cttcaacttg gaccctgtgc ttgtaatgat cttgggatat cgatctaatc ggtcatttaa 2100
```

```
ttggcgagga actggaatat ccttcagttt tgcgaggcgg ttttgcttat attatattat 2160

aaagtgcagt attatatcaa ctggcaaggt ggccgagtgg tctaaggcgc acggttcagg 2220

tttacctgat cctgctttct aagcttccgt gtatcgaaag gtgcgtgggt tcgaatccca 2280

cccttgtcaa tattttttgg atgattttgg atgctttcgt tttttgtcct attatagaat 2340

acttgcggat atcagtcata cacaaaagat tacataatat caattggcaa ggtggccgag 2400

tggtctaagg cgcacggttc aggctttacc tgatccttca gatttccctc taagtttccg 2460

tgtatcgaaa ggtgcgtggg ttcgaatccc acccttgtca ttctattctt ttaaaactac 2520

atatatatat atatatat aatttttttt tttttttatt atcacttaca gcttagtata 2580

catatgtaca ttccagagat gccgacaggc ggcatgcgtt aagcctatca gacataggat 2640

ggtggctgcc ggtgcccaat aacaagcacc tatgtcaaag actcattcta tttgctctca 2700

gttactccgt gcttaagatc caacttcaac cccacaatta aacatagtgt atgacacgcc 2760

cgccgccgaa acgagttgtg tcttacacca atcagttaga caaccgcaat taacaagaca 2820

cagacaagct tgtttccagc tccaagcaca actgtcactg ctatgctacc caacaactca 2880

ggtttaaacc tgccaacggc gtcagacgcc aacagaggca aggacaagga caaggacaaa 2940

gctgcggaca acaagctctc caagcctcga cctgtcacgt cctgctctgc atgtcgcatt 3000

cggaaagtaa aggtatccca ccccgccttc tcttgactct cctttgacat acaccaatct 3060

ttacatctgg agtacaagct ctgatcaaaa tctgctactt aacatgaaac ggctctacaa 3120

gataatttgg atgctgttcc agtgcgccga tagttaacta gtggcagtgc aaccgcgctt 3180

ctccctgcag cgcctgcatc agccgcaaaa ccccctccga gtgtacatac gccagcacag 3240

ttgaagaccg tgaggcgatc gcagccgcag agacgatagc tgagctccgc tcgataagga 3300

gtgagctgca agaaaaactg gcgaagggca cggccggaaa ggtccttgac gggggcgggg 3360

aggatgagga ggcagaggcg ctcgaggccg tttatgctgt cttgagagga ggttcggttg 3420

atctgattag tgaggtcgtt gggaggatca gagcgggtga ggaggtgggt ggtgttttgg 3480

ccgggttagg tgtcaggtag gcggttcgaa cgggttgggc tagatggtgc tggtgatgat 3540

ggatggatgc attgaagggt tgaatgttac tgatttagaa gatgggtgac atggtattat 3600

aggaatgaac cgcccttgct atgaagacct ggtatagcgc ttaacccaaa gaaagaaatg 3660

aaactatata tagcgaccga agggtgaggg tagaaaggga acaacgctcg aagaggaaga 3720
```

```
gaatgatata tatacagttt ctgcggatgg ttaggaatcg gcagtaaagt aaatgggaaa 3780

taagggcatt agaaagctca gaaaaaaagc gagctgtcag gtcatgaata catcgtctca 3840

tcagcatgcc gggaaaacgc aacgccgacg gggccggaac cctccacttt tgaccccagg 3900

acgctgctaa agcagtccat gagttcaaag tcctctagga ccgccccgaa tccgtagcag 3960

cgcaccttgt tctcaagcgt gtccatgatc agtttaacgt cgtcccgcgt caacttcgta 4020

tacatctcat ggttctttag agcctggagt gccattatcg gggtaacctg tccctcagtg 4080

actagttgtc ggctaagatt gagtagcgtt gtgaggttag catgcggcag gtcgtaggtc 4140

ttgtgcggat atgtttgctc gctcgtagta ttggcgatgt agcttggcgg tgggcaggtg 4200

gccatcagcg cgtgccctga aaatggcatg tcctcatcat cggcttcagt gatggatcgt 4260

cggcagaggt agtcggtatg atctcgacag ggtgattcca gcctattcag agtcagaatg 4320

accttgcaaa aatattaacg taaaacgtac gctagaatga agtcaatctg aagctgggga 4380

ttgtcttcaa atatccccgc tccttgaatc ggcgggcgac ggtctatggc ggcaagtgca 4440

tcacacggta ctgtagcaat accctgattg ttcggcccga cgtccggaac tgacgagaag 4500

tcgaactttt ccactccatt aaatttcggg ctcattcctg atgacaccgt cgttggcggc 4560

gtgctgtaag tatgcgccgt aagcgaagcg atgcccgtct gcgatccaac gctcccagct 4620

ccaacgggac tggagtggaa tcccgatccc atctgtcgct cggctctgcg gcgttccaat 4680

tcagcatcgt aattgatatt gtgggccact aggatctctt caacatgtt gttttcctcc 4740

gatatggagt tggccatttc acgatgttgg tgaacagcaa ggttcgcagc agatatctcc 4800

tgagtgtacg cttcccgcaa ccgcgcaact tcgctctcca acgctctgat gtattgctcc 4860

ttccgctcac gatgtgtcct agaggaataa gcataatcct agaggttgat gttagagttc 4920

ctacctctgc gcctgacggt tcaactcttg tcgccgcgta agagctggtt tgctatcggg 4980

ttttggtcct cttcgtttgg caggttgccc gtctaagacg tgttaaccag gaggtccagt 5040

ctaggagcga cgagaacaaa cctcgagtag tcttcttagc ctgtcctcca gcgccaaga 5100

acttgaagaa gtccgtgctg attgaacccc tcataccggg cgtatcttgg cctgctgcag 5160

gtatcgagtc agcgactgtg cgacaatcgt tcaacgccgt ggaaaggtag agtaagacaa 5220

gccgcacgtc acgcagaggg ccagcattag gataaagaga ccccacgtac ggacaataaa 5280

agaattgccc acattccaga gtgcatccac aagaggtacg gaaagtgtag gagcgggtgt 5340
```

11790

cgtttaatgc ttaccaggtg aagcactctg cgataagctt tgtc   5384

<210>   5765
<211>   2872
<212>   DNA
<213>   Aspergillus nidulans

<400>   5765

cccccaaagt tgagcattct tgcactcggt ctagacctgc cgatctcccc ttactgaggc   60

gcggcgagcc tggacctcga ccacggaccg acgcagggaa ataagattaa acaagggcca   120

tggcggtggc tgcactgggt gcactgagtg gctgcgctgg gtggctgtct catggacttc   180

tgggacggcg tggcggtagt ttatttgaca ttggctatgg gctgacgccg ttcgatgttc   240

agacgagtcg agtgaccaga cgtagtagaa cagggtacgc agatagtacg tagaaagtac   300

caagataagt actaggaaag tactaggaaa gtactaggat gagtaccaag gtaggtacca   360

cgatgaagta ctcaaagttc tggtacgtta agaacgctgc ggacgatcgc gcaagatcac   420

ttgcttgatc ggtcagaaat atatatatct gacagcggag tagaccgtct aagccagcat   480

ggcgatgggg atgccttttt ttaaattata ctttttcttt tatacgcttt atatgtttta   540

tgctagaata ctgaaatatg atcgatatag gtcgccaaat actgagatgc atgctgacag   600

caatctactg catcgcaggc tgacacatcc agtgcaatgg actgactccc gataaccgta   660

gccgatgaag ccgatgacat caacgcaacg cggggctgat cgacctctcc tcttctttct   720

tcttctacca ctcgagcttc tttagcttca cttcactcac tcacactcac agttctcgta   780

cgtcttactt tcgtcctgtc tcatgttctc ccgtccgctt ctaacctacc cgctccgtag   840

gtccgttctc gcctcactaa gacaacgtcc actcccgagc tccccgttcc agttccagac   900

gcagttccaa gcgattcgct gctcttccgc catgtccggt gttagcaagg cctgctgctc   960

gtccgtctcc ccccagatcc gtcgtcggct cgctgacccg tatcgacagc atcccccccga 1020

tcgttgccaa aggctaccag cccaagggcg aatacaagac catcaatggc ctcaagacat 1080

gttcgtccag ctatccagcg tggaatcgag catagctgac gaaaacagac gtgaccggcc 1140

cttcagatgc cactaaggcc atcctcgtcg tctacggtac gtaatctaaa tacccaaacc 1200

caatccttta aacaccagga cctctcaacc tgctaacgct gccagacatc tttggcttct 1260

tccctcaaac ccttcagggc gccgatatcc tcgctacctc gtcgaaacag aaataccgca 1320

```
tcttcatgcc cgacttcttt gagggcgagc ccgcagatat cacctggttc ccgccctcca 1380

acgaagacca gaagaacaag ctcggcaact tcttccagac aaaggcggcg ctcccaagac 1440

cctctccaag atccccggcg tcgtctcgga agcaaactcc tacgccccct ctggtggcgc 1500

cttcgaatca tggagcatcc tgggctactg ctggggcggc aagatcaccg ttctctcgtc 1560

gggttccgag aacaagacgt tcaaggccgc tgtgcagtgt caccctgcca tgctggaccc 1620

taacgatgcc aagggcgtga acatccccat ggcgctgttg gcgtctaagg acgaaaagcc 1680

cgacgacgtc agccagttcg gcgcgaactt gaaggtcgat cactatgtcg agactttccc 1740

gacgcagatc cacggctgga tggccgccag aagtcagttg gaggatgagc aggtgcggaa 1800

ggagtatgag aggggatacc agaccgcgtt ggacttttg gcaaagcatg cctagacggt 1860

tgtgctcagt ctggtaacag atgtagtgcg tagtctacgt aggctagtaa ttgatctact 1920

gtctatcgat ctgcgttggt gacggatatt cgctcttcat cgagatctgt gtatggagtt 1980

tgtgtacgga tccaatcgag cctttcacaa tgacgatgtg aaacagtcat ctgatgttgg 2040

aaattggacc agaccactta agcaaagaag cgcaaaagca gcgtcatacc tcgacaactg 2100

acaggctcaa tctaccagtc ctacaaatta cttccaagtt acttgggacc agaacctaag 2160

cctatctgaa gctcgtgaac cgtccgcttc acaaatatc gctctcaacc tttcagacca 2220

agtatgcctt ttccaccgcg ctttcgttct aattgtccat ctcctccgcc ttccttttc 2280

cctcgcgata caactatcat ccgctactcc cctcgtcatt ctgtctcctc cgcacactgc 2340

agcagccttt cacattcacc gcggacgtct tacaccacca taacaagaaa gcacgtccat 2400

actcgactgg agacgatata tcccatcttt acccgtcgca ggagctggga gcgtgcttct 2460

gcgccagcac cgcgatatat cgagtatatt gaaccccgga accgacagag ggacatcgaa 2520

tatatatcta tcgcatgaac ggactttctt gaccggtaga gcgtcatttg gccgtaacgg 2580

atcggtttgt tgttcgctgt atccggcaac ctttcggctg gcccgggacg ccgggggcga 2640

tctatatact tcccaaaacg gctaccgatc tcaccgcgcc aactcaactg gaggttactg 2700

aggattgtat accatcaccc cagttcggac ccctcccagc ccagcggaac cgctcgacag 2760

aaccatgaag tgtcttcatc atgtgcgtcc tatgtagcgc agaacccccc tcaggatctc 2820

aatctgtttc gtgacgtcac gaagtatatg aagagatcag cataaaacat tt         2872
```

<210>   5766

11792

```
attgtcgaca ccccaggtat gcggaagaaa aggtgcgacg agactgacaa catccgaaag   60

gggatggcct agcgtcgcca tctcccagtc taagacaccg ataacgcggg gttccgtctt  120

gtggaagata aggttgtcaa tcttgtagtc gccatggacg atggtcgtcc tgtcctttgg  180

ctggtttgct ggttctgcaa aaaaggaggc catctcttct aggtgggaga gagggccgat  240

ggggacgccg gtctcgacgt ctgtcgtcgt agcttggtgt ctgctcaacg aagtaaatgt  300

tctgacttgc cgccggtaga agcccgagtt cttgcccagg ttctccaggc caagggcgct  360

gtaagagagg gtatgtagat tcatgagcgt ggtgattgcg gagcgccacc tgcatctttc  420

attagcattc cacatcaact tttttggttt ctcctctcct tttttttttt tttgcatgcg  480

agcatatgaa acgtatagga aaggacatac atcgcgcctc tctcacgggc agaaaccccc  540

ggcatcaacg ggtccgtaaa aacccggcca tccaggaatt ccatgatgta gaatgcggtc  600

ccaataacac tctcgtcttc gcataagacg tataccctgg gaatcgggac atttgtatcc  660

ctcagcgcat ggagaatgcg gtactcgcgc tcgacctgat gtgctgtctt ggagaggagc  720

tgcccggggg gtttcttgcg gaggacgtag cgacggactt cgctctgagg ggtcaggagg  780

taggtcggat tggactggcc gaaaccgaac tatctcgttt aattgtgagc gtaaactgga  840

agaagagagt gttggcgcgt ttcggtggtt ttnctatagg tgttgatata tgcgggacat  900

tgttattgat atacctttct agagaaggga tgtcaattcc ttggcgaaca ggacctgcca  960

tttctgcagc agtcttgtct ttaaggctaa tgaacagccg acctaggtag atgagatata 1020

tagtaggtaa acggggtcaa ggtaatccct acccctcctg ctggatcact tatacctcgg 1080

atgccgagaa gccgtcagat cgtatcctga gaggggagcg gggtttcctg tattatacac 1140

ttgagaggcg actcatgcga tggttctatt atgatttata aatacaattg agtcagagcg 1200

accgaattaa ccatgtcgct attgtgaata atacgaaaat atgaaattgt ataagaaaaa 1260

tgcggggaag gccgaatcaa tatagcacag ctatgatatg tgaccgtttc tcagtaggct 1320

gatagagaga aacatgccct actagacgca gatactacaa attttgagtg ctacagatac 1380

aatcgagata gtatgtttgt tccaaggccg aatctgatcc ctctcacaac cacttcttca 1440
```

```
ggccgtgaga ccaggcacag cttctctatc aatttctaga ggtgtaactc caatagtatt 1500

tccatctatt cactcacttg aatagtatga aagcccatct agctttatgg aagctggcaa 1560

gataggacag cctccgtcta tgttggctgc tgtggaactg cactcaggga caagttaaga 1620

ttacgacgac ttatacgacc agtggatccg cagaggctct cagtcaattc tgtaatatgg 1680

aacagtatta ttcattccag ttcagccgcg cccttggctg cttggcccga atacagcgct 1740

aggaaccgct gtccggccca aacgctgcaa tgtcagctac ggtcactccg tggcgagcac 1800

caggaggatc atcacatgag aggacgtcat ccttcgaggc tagtgcccat gtcagctgga 1860

tcctcagggt cgtatatttt ctcgaagctt taggtggaat aagtagttac aatcgcttcc 1920

ctgctgagac tttgatactc gaagcatatt gctgtatcgc tatattgctt acacaaacaa 1980

ccctaatgga cggagaacaa ctcagagaaa accacacaga ggtagagcca tttaccttct 2040

cggtaataaa tgcttacatt acacttagcc gctctctgac cgtgacaaac atatcctgcg 2100

tacatacgga acactgcctc gcagagattt gcttggactg cgggccaagg tacagcgcct 2160

tttatctttc gtactaccga gctgttgctg atccatgaca gaagcgggtc tactttgact 2220

cgggcgattt cgctctctct gcagctagca agatgagtga tgataacggt gctgtccaac 2280

cgggcacggc acaccccgtc cgcgccagta tttcgcaccc ctacgcgcca ctgccgggca 2340

cgagtaatgc ccccaataac gctaatgaga actttcatgg tgataaaaat cccagtcctg 2400

agatcgcaga gagccctctt gggcaggaga cgcaacctga tgaggagtac atctgggaga 2460

acaaaggggc ttgattaacc ggtgaatgct tttaaaacat ttatataggc gtggctacaa 2520

ggtcagatct gcgtcaataa cctcaggcct ggatatttga ggaggaaaat tgactgatgt 2580

gccttgagta caaattgaca gcgaatatcg ctgtatgtat gagggagaga gaattagatc 2640

cagcttctac ggcgtcacgc tggcaagaat atcctcaatc tgcagttata gattcaggag 2700

ctacagagaa tctaatagag gatttttctt cataacttac ctccttggtg tcttacagcc 2760

tttggaagtg ctatttctat tatctctcca agttagctct tactacctta tagagatact 2820

ttgaagcgct gcactctttt tctcactatc gcatcaagag caagatcgaa gagagcttga 2880

tcagtttaca cctatgggct atgcttctga attgcaaacc cggtatggct caaatgagtt 2940

cttgacgagt gagtggaaac tgcagtccgg aaacggggaa cccagtctat ttatgagagg 3000

gtccttggaa gtaagctttc cagctggcgc aatcgaaaga gagtctgccc cagaaaactt 3060
```

```
gaggctgtac ttccaccaac ggaaaaagca aaaatagcaa agataaagcg aaggatagga 3120

cgagggtgat atgcaaagat gggtggagaa acaaagtgaa tatgtctgag tcactttcag 3180

cctctctaga ggatcaggca atagctataa atactttctc ctgagcaaca aaggccccaa 3240

gagtcaaatt gatacgacca accaccgaga aaaagttcct cgcgccgcca actagggaga 3300

tttagagtcc aggatctcat tggaggtaaa atcagctgtg cccctggttg cctggggtgt 3360

gatttagtga ataatgaact catgcggcgc cgatacgagt ggcgcccagg ctgcgactga 3420

aggcccagag cccaggaaga ctcgtggtcg cgcaatctga atcgtataga caatgtgatt 3480

gaaggagaga tggcaaatgg agccgatggc cagcgatctt gcggtggagg gagccccatt 3540

ctaagacatc atactgtagg gtcccgtagg cgaggtccgt gatggttcgt ccgctagcgg 3600

aagggtgggt ttggctgagt ggaaacagca ggccgggatg atcgttagca caacccgggg 3660

aaacgctaag agtcttagtc cgaccagaca cttatgccga gcagagcaag ttaaggtagt 3720

tccacgaggc cggagaaaag gagctgagca ttgtagagga agcgtgtcct acagtctgtg 3780

gcaattgcag ccgcaagcag aaaaacctcc ggattcagga aggagggagg gtacaaagca 3840

gccgaggtca cattctgctc gcttatcctc tgctgttccc tatccaatca gtattgtgcc 3900

tagtttcacc ctactgcggc gtagtctctc tagtgggagg ctggaggctg gagcgcccaa 3960

acactcatgt cagtcatcaa aagtggtcga ggggctttgc tcgtgcgccg tgtaagaggc 4020

cccgtagcgt ggttccaccc agcgctttct gggattctct cggtcagccc gggaaggaaa 4080

aaatgatttt cttagatgat tttctgttga tctgtttcag gattgtccca gatgttctgg 4140

atgctgtaat catgactgtc agcatggcgt aaccagcgac aatccgcgac gtgacgacgc 4200

aacctcgcac ttacagtagg atttacagtc caaagagata ctttgtcaga agattcgatg 4260

tctcagccaa gtgataaata gtcgctgttt agcgtgagaa attagcaagc tcagataaga 4320

agatgaagag ggatgcgggc aaggtcngna cgtcttaccc cgtattgtaa ggaccaaagg 4380

ggtatcggcc ggatgttttc gcccagcctt caggtctctc ggctcacaag cccacgattg 4440

tttccacgaa aaactgaatc atcctcaaac tagcttgaat ggctgttgtt gactctccgg 4500

ttgccctgca gattgatcct aagagaagag aatagcgatc tctggtaaaa ggcgaaacaa 4560

gccgctcatg tgatggatca ctgattctat caggagggac aaagatagaa agcagagccg 4620

accggctggg ctgaagctga cactgccact ctcccacaat aagggtgcat cacaaaaaag 4680
```

11795

```
aaaaagggtc ccttatcgcg aggctggaac tgcgaaccac tcactcctac agctgagttc 4740

taaaccattg acattgagag ccgagggtgt tgaatattct gcctaaggct actattgttg 4800

cctgaactga ctggtgagtg atgatgacta accactttcc caaaacgggc ttgttagaga 4860

gcgcga                                                              4866


<210>      5767
<211>      6477
<212>      DNA
<213>      Aspergillus nidulans

<400>      5767

cggtatacct aatcaagaac aaataaccgg tattgggtga aagatcaacc cctcgatgga   60

agggtagcag agcggaatac ttaagaacgg agctttccat ataggtgact tatgacaaat  120

ccaatggaac taaaaacaca aaggcgagag ccatatttgg tttctgaatg cttttactaa  180

atttctggat ggtaggtatg tgaatcatat catatgtata caagaacagc agggaacctc  240

ggtcaagaag agaagataag gcaaacgaga atcgaatcgc cgtagctgca tagaacagat  300

agccagacag cgctgaaccc tgaaatgcga aaccagatag atgcgtgcag attgcttgga  360

agacgctaga tgctcgtgca gagagaacat aagacgaggg cacctacatg tcgacttgat  420

gtcccgaagt gaatagatga aataaaagga aaatgaagta aggaaattga ggtcttagct  480

tcgtgcatac atgggagaat agtgcgacaa atgagatgaa aaagagtaaa tgaagcagga  540

agaaacgcca ctctaatgct gctcaacaat tatgttttgg gctttccgca tttctatccc  600

agtggaatcc gtgcgaatgg ataaaagaaa aggcgacaga aaacatcagc aaaatttctg  660

cccaggcgtc tctatcaaca tgatccgtgg atcataatgt ctttcatatc tcgtgatggc  720

ttgcaggaag ctcgtcgggg gaaataggtg tcgtgtctcg agggtggatt atatatagga  780

aacaatgcgg agggcgttca tatcacagac gtggaatgaa gatattaaaa cgtatcgcgt  840

ggaacaaaat cgtgcctaga aagtaatatc gaccgatagg gtacgatggg cgtagccatc  900

acgcgtgtag ataattactg tcatgaacgt tgtgagcgac tcatcgatcg ttccgggacg  960

tttccaggcg taggcgagta agatcttcca ccaccgatca ggtcatcaac gtcgtgctcc 1020

tggaggattg cggagtattt cggatcccgc aggaatttgg gaacagaatc ctggtagaaa 1080

ttagttatcg aacagtaata tcatgtatcg gtgccacgaa cgcttgacat aagcttgaat 1140
```

11796

```
accgatgttt gtgccatctc aaacagctgg actacttctt ggagactctt gagcattgag 1200

tcgtcgtcgc caacagcttt cgtcatgcga ctggccagac tgttacggag cgcgtggtca 1260

atgttgagct cgcagggaga cccgggtgct aggaacgcat tgtaaaggcc ttgtcaaatt 1320

agactgattg ttcaggtcca aatagtttcg tttgggaagt atgacttacc atatgctgcc 1380

gcaagcgttt cccgtacagc gtcgggcttc ttgaagtggc ccaccttgtc gaatttatga 1440

tactgggtgg tgaactcgga gacgtcaatg tagaatgaca ggttttcttc gcagagtgag 1500

aaacggagaa attctcggaa tagtaggcgt agggcagggt cttgcaagat atggttcaag 1560

cgtgcgttat tcgaatcccg tgggatgcca cggctgtcat aggtcgtcgt gtcgcgaggc 1620

ttgtcgcgag cgagccatcc gcaaacccgc tggccacgct cagtgatggc gtagatcgcg 1680

ttcttcgagg gttggaaagc aactagtgag ttctcgacct gcggcattga ccggtcctcc 1740

tgaagtacgg tgatcaatcc atacttaaca aaaagttccg cgatcagaac cgtctcccgg 1800

ggctcaatgg ttgtcgaaca gtccatcagc cagtcaaccg cagccttccc agtgaaagta 1860

ttggcgcaaa ttttgtcgcc gactttgcgc tcccgagcca tctttactcc aaccagacca 1920

tttgagtagt cgctgaggga atctgaatcc gagctcgaga cactgctctt cacattaggg 1980

ccgtcctgcc ctgcgaatcg acggaagatg acttcgatcg tcgctcggtc gtgggagagc 2040

ttgtcggttt cggtatcgcg ctccaagttg acgagttgca tagtgttgcg gggcgactcc 2100

aggacgtcaa taacatggcg cgcagtgatg ccgtttctct gacagaacct ctgcaaaatg 2160

ttgatacctt tcggagtaag ttgatataaa gcgcccttca gcggaaacgt gtgcgagtat 2220

ttcccatcca cagactcaat gaagcgagca tccacaaacc gctgacatac cgatcgagcc 2280

atttctttcg ccattgagaa ggtagttgtt gtagtagtgg ttacaatgcg ggaggggtct 2340

ttcgggtctg gcatccggtt cgattgagag aatttgaggg agcccagatt gttaatggct 2400

tcctccgatg tgaaagtgtg gtcatatttc gtaaagcgaa cgcgatgcga atccagtttc 2460

aagctgacca taagagtaga gaaaagatcc atgaaatcct acgaaagggc acgattgtca 2520

gttaatgttc ccaacacaag cgcttcgttt aaaaatgcaa gtcgcattat taccttggtg 2580

aaaggacgat catcctccgt catgcgcaac agccttgacg aggtttgatg cattttggcg 2640

ggagaaacag gtatgttctc agagatgggc ggtacaagct ggatggtctg cggcgccgt 2700

tctgcggcag ggttgggctg ctcagtgacc gctgataaag gttcgaacgg ggcagagctc 2760
```

11797

```
gattgctcgc tgctgccgct accgtcggac aatggcgggg agagtggaac aaagcctgag 2820

atttcgccca cactcagttg cgacgcttgc gcgaatgctt ctgtagactc ccggatgagg 2880

cggactgccg gagggaggaa ttcgtggtcg agccgattga cgagagattt gcgagacgct 2940

agaagtcttt tctcgagcga gacagcaaaa gagcgtcgat tccgacgtga aatggagccg 3000

ataaccgaac ccagtaaaac tgggtgtggt tgtggtggcg gggacgtcgg acgtgataag 3060

ggacgaggtg gaggtgaaag acgggagcca aggtcgaccg gggaggaaga cgaaggaaca 3120

gcgcgaccac ccgcagcagc agcagcagct gtagaaggag gaggggaaga agaagaaggg 3180

acggactgag gctgataatc aatgagagaa gagggagggg atccttggct gagggagcg 3240

gtagatatgg aagttggcat tgaagagtgc aggtcggagt gggagtggga ggctagggca 3300

gactaagtaa aatgagaaaa aattaaaata aaatacagta cgggatgacg aaaatcagac 3360

taaaccagag gggacgaaaa aaaaagggca gaaaatcgga ggaggggagg gggtgggaag 3420

ggagaggatc aaagggagaa aggaagggaa gggagggtgg aggtggatag gtaaggaaat 3480

taaacccttc agtcttcaga ctcttcacag ttcactcttc atcgactgcg gggtctggct 3540

ctggttctca gcccaggctc tggctctgga tcttgggaat tcggtcttct attctgtaca 3600

gagagaggca gagggaaagg ataagtatgc tgacagcagt acggagtatc tgtgagtaat 3660

aatattaaca tccttacatc ccatcagccc atatttgaga taatatttat cctcttcgct 3720

tccagggcca ggggtcaggc tcacctagca gaggtgaaga attcggcctg tcattcccga 3780

cccaccgggc acgcggacgg tttcatgcac cagcacaacg tgggccaaga gcacttaggc 3840

agatgtggat ggatcggcct ctggcgcgat caaggaacct ggccctgctg caagggtgtt 3900

gctgttgcaa ctttatcggc gcatgtcttt ttgctctgct gaacaatgcg atcaaggtta 3960

ccaggaatcc tttattagag actgtaaatc gtattccatg gtcttttcac cttattggtg 4020

aaattgaaag attcaccttt gttctcagag aaagagggaa ctgaaaaacc ctatgggtat 4080

ggtgctatgc tagacggaca aatacggtaa attacattat cgggggcgac taacgggaga 4140

aactgttccc gttcctgatt gttaccggaa acagccactc agcccacttc catcaccttc 4200

tggatggctt cgatcttgcc ttacaattaa ttatctctga cagagggcct ccttatttaa 4260

attgtccatg atttcttgta ctgagaaaag cagctttgga cctgcgtcag cagcgtggcc 4320

accacaaccg ccagcttctc tacgcacctt ccattttaag taagatcctt ctgggccgct 4380
```

```
gacccataca ccattcaacc aatcatcgag atgtgagagc ggctgctttc cggttgtgga 4440

ttagtggact agtagtccca ttcccgagtc cagaccaaac agcgcttcaa gcaggatttg 4500

cgacggtccg tctttcaatt ttcttgcgat gtgcgcctat gattactgga aggctacttg 4560

gatggactgt gccagatgga tctgttggtg gtgttgtact tatacgtacg acgttatttc 4620

ccttgctccg accgtagccg ccttcctgcc cacgtggaat tccacgctgc ggcttgggaa 4680

ccctggcgga tggtgctacc gaagacgcgt gtcacgtgaa ttacgcactt aatgcagatc 4740

tcaactctgg gaatctgccc tcgcgtgcca agagaagacc tagaaggctt ccgctcagat 4800

accttgggct tgcacaggct cgaatctcgc attcctccct cctcgtgttt cttccgtgga 4860

ctcctagttt tggcggtagc aaacaatccc caaaaccagg tctgcattac aatacactca 4920

ataatgttca tagttcgggc cacacctccg ctaatccacc tagtggattc tagcgtggct 4980

gagcggcttc agggatcgag ctccttggaa gttggataat tcatgatttt caccttcctt 5040

attgttaact agcgagatcc atgcggatcc acgtggacac acgtggactc gtggagagaa 5100

gcggccgtca ttcgggcgcc ttggcttcga gtccgccgtt ttgaaatcat cgttggagcg 5160

gtatctcgtg ttttccgtcc ttgtcattgg cacagagtct ccctacggac cgtcctttat 5220

ctcaatctta ccttgtgatt acagagatgt cgtaagagta agtgtcattg ccccaggact 5280

cttacgatga cagtgggaac taactattct tggagatttc ctctcggtaa tagctcgggc 5340

tcgcacgccc tatcgttatg gtgttgttcc ccgcagcaag gtatacaagt atccctagcc 5400

gtcacgcaaa gattacgaga ccgcgcagg ccgcgacaag tcagaaatct ctggtggagg 5460

agactcgatt tctctaatac ggatcaatgt tatcgccgca attctggttt ggacgtatca 5520

cttcaccgca aatgctccgc gcaatacggg cttcggagta cctcgaccgt tctcggtcct 5580

ggcagccaaa acaagaggag cggatggaac acatgagcat atagacgggg tacaggatat 5640

cattatcctc gctaaagacc ctgcgcatcc ccaatagtcc tcggcgctct ccgtggactc 5700

cctggaagct gaggctcaaa ggttgatcgg agattcaatt catcaattaa ggttcagctt 5760

aggaaagcca tgcaaacaag ctggtgatga caaatacgcg agtcatggct aataataaac 5820

caattttagt gattgcatct tcttgaatcc ttcgtcggca tttcgaacct actctggtgc 5880

ccacctggag acgcaatcag ggagcggtga gcatcgaccc acgaccagcg gcccttctgg 5940

tccacttgcc tcggagcatt tgaactagta caaaacgacc tcggaatagt ggcctgtatt 6000
```

11799

```
ttcctcgagg gaagttggaa cacaagcagc aggcttgttt gcttcctgtt tgctggatgc 6060

gtaagctttt ggacccaatc aggcactgct gcagacatat catttctgtg caagactgtt 6120

cgtgcttgtg gttttgtttg acgagtcgag gctagcctgg tccgaacccc aatcattcgc 6180

agtcacaaca cgccagtagt aagcagaaac tcaaagcatg ccgatcactg atcaccgcgc 6240

acttgcaccg aaatatgtac aagggtttct gtcctgtatt accgtggcct ccctgaactt 6300

tgatagcaag cgccgaaggg ttgttcgaga ctcccagctt catatcaagt caagtcaagt 6360

ttctgccgtg ttatgacgac tctgcgagta tcttatgctg tcagaatcac ggctgaggct 6420

agtagatacg ttgattagga catatcccct tagcttacgc gaaacgacaa gtgccgt   6477


<210>      5768
<211>      5017
<212>      DNA
<213>      Aspergillus nidulans

<400>      5768

ctcttgctta ttattcgtgg cacaacatgg ctacattggc tcaagcattc tcccccgacg   60

gctctaatgc cgttgttatc ggtccgggga atccggcttt aactgatacc tacgcgcagc  120

tgcattggca tatatctgcc gtccatgaaa agctggctaa acttggtgtc ggacatggtg  180

ccgcggttaa tctgcatcta attaactcgc gcgattccat tgttggcttt gtagcaacct  240

gctggcaccg cgcaatcgct gctcctctga accctgccta caagcaggac gagtttgagt  300

tctatatcga cgatcttagc tcaaccctag ttcttatccc tcgggaatcc tatgctcaga  360

atggccccgc ggtcctcgca ggtagaaagt atcaagcggc tattgcggag tgctactgga  420

acgggacgga ggttgtgctc gatgtgaagg agctgggcaa gctaaagggc aaaggagaca  480

ttggcgtcca gaccgctcag cccgatgaca ttgcgcttgt cttgcacact agtggaacaa  540

ctggcaggcc caaggctgta tgcgagcact tccgcagga gtttgattgg gaactgtact  600

aactcttgag acaggttccg ctcacccaca gaacctgac aactaccatg agtgagtgtc  660

gcggtatcgc ttctgacata ggactaattc cgttctaggg aacattcaag caacgtacaa  720

gctcacccct caggatcgga cttacctggt gatgcccttg ttccacgtcc atggcctctt  780

agccgccttc cttgctcccc ttgcctctgg cggttcagta attgtaccca ccaagttctc  840

tgctcaccag ttctggtcgg actttatcga atacaaggcg aactggtact ctgccgtgcc  900
```

11800

```
aaccatccac caaattctgc tcaagtcgcc gctgcccaac cctattcctc aaatccgctt  960

catccgctcc tgctcctcgc cgctgtcacc aaaaaccttc caggatctag aaaaaaccct 1020

caatgcccca gtacttgagg cctacgccat gacggaagcg gctcatcaaa tgacgagcaa 1080

ccccctgccc cctgcaaagc gacagcccgg tagcgtgggt attggtcaag gcgtcgagat 1140

taagattctt gatcaatccg gaaacgaagt tccacaggga catgaggcag aaatctgcgt 1200

tcgaggagag gaatgcacga aaggatacct tacaatccag ctgccaataa gtcatctttc 1260

accaaagacg gcttttccg cacaggtgac caaggcaaga aggaccctga cggctatgta 1320

attatcaccg gccgcatcaa ggaacttatc aacaagggcg gagaaaaaat cagcccaatc 1380

gaactggaca acacgctttt gcaaaacccc aacgtcggcg aagcggtctg cttcgccatt 1440

cctgaccccg gtcactacgg cgaagacata ggggccgcgg ttgttttgaa gagcggtcag 1500

aatgctactg aagatgaatt gaagtcgtgg gttcaagaga aactggctaa attcaagacc 1560

ccaaaacagg taagccagct atctctctgc ccctgaccgg gctgttgcat ctttactcac 1620

atcaatgcct tgaagatctg gatagtacag caaattccca agacggcaac cggcaagatt 1680

caacgacgca aggttgcaga ggcgatgctg aagcccaagg ctaagctgta aatattctct 1740

gatatttcat gacctctgtc tttcaggagt cggtaaatat gtagtgtggc ttgatatata 1800

gcatgaatac caaagtacat acgatctata ctatcaaata accaacatcc atttacgctc 1860

caaccctaac cgcagacttg aactatcgt aggaaacccc aaacccgtta gtctcagccc 1920

ataacaacca cccagtagca agtactacat agaagaacag tcgcaaaaga tgacataccg 1980

gaataacctg cgctgcattc agatcccaaa cccccgattt ggtgtagata tcattccgga 2040

taacctccca tgcatcttct tcttttttcgc caaggacaat gagcatactc cccttgaacg 2100

agggcgtttc gccttcagat gggtgcgcgt tgagcattgc gcctgcatcg aaaaagtagg 2160

cagaaaacca tattagtaaa gaggaaaaag aaaaggtatt tgctgaagag cgtggccctg 2220

agcgagctag ctacaaaaaa cttgggttgg ttggcacata ccaccaacaa ctaccttccc 2280

ggcctcaacg agcggtttca cgccttcaag gtgtttcctg catcattttc cggttacaac 2340

tggattgtga acaagaggag aggagaggaa aggagaacgt acgatcggac ctcaagtctt 2400

ttcgcctgcg cgtcgggctt gtcggggaga atgcagagaa attcgttaga cattgcgaat 2460

ctacttgtgg ctctaaagag agaacaaggt gaagagtgga acgttctatg gggttgaaac 2520
```

11801

```
tggcgagtaa taagagatcc tagaactcgg tttgtcgagt ttgtgacgcg gggaaactgg 2580

gcgagggtga gagtgagcat cgtgttgcaa tagcgcaggt ggggaagatg gcgggatggc 2640

agatggggaa ggttcgggga ggaggcgttt gatgggtcag caatggccga ggcggcgaag 2700

tcctaggcgt ccgaggctgt agcactgcag tgtttaggga atagaacgga gggcaaattc 2760

accacgaaca acccgatttc aagccactct taggcgacag gatatacagg gccgagtcgc 2820

atagccaatc cacgcggttt caacagttgc acttgaccgt caattgacta cacatagcct 2880

atatatgtat gtacaaagaa aagcaccaaa tgcccttcgc tctttgctcc ctactttcca 2940

ttttatttga cgcagtcctc tattaaatag acagtgaggc acggtgatgg atcacctgta 3000

gcctgcactg agatccatac catcactgca gggtgaagaa cgtcagaccc ggcgaagcag 3060

aaaagcgttc agagccaaga cccggccatt gagatggtgc ccttcgctga cgaacaagat 3120

gagctcaaac agagcaagat tatcgttcaa ctctatgagc ctccaagatc gctgaacata 3180

taccccaagc gccaacagaa aaagcaagca taaccctaga acacaacgtt aaagaaggct 3240

aataattacc ggagtcgggg tgtcagtttg caactttcgc aaatagaatg attaataaga 3300

gaagctgcgt aagatggcaa ggcccctcgt ggtgaaacca gccgcaatgc gtcagatgta 3360

caattgcaca aggagtattt gaagatcggg aagttctctt tcagtgagaa atcgatggtg 3420

gcgatcggac ttagtacgcc ttgcggtcac cgaggttccc gggtttctcg tcagtatcga 3480

tatgccagac aacgtagttt ggcaagccaa tgacctggta ccagcacgt ttggccattc 3540

tcgcaaaccc ttcagtttcg gcctgatttt cgaaagcata tgctgggaag ttgatccctg 3600

aaagcaaggt tagtgtcacc gcaattgtaa atgacaagtc agacgtaccc gagcgatgga 3660

cgtcggcttt aacgacaatg ttaacaccac caataccgtc aagctcaacc tccttatcct 3720

tgtcatttct ccagtcgccc attccgacaa gatactcgcg ccggtgtcg tattccttat 3780

agccttccgc caggatagtg tcagggtcca gagtagcgcg gagtctcctc cctttatcgg 3840

attcaatcca ggagttgtag tcaactgtaa tatcgggtca gtaaaagtca actcaggtcg 3900

ggataaccac atacagcgac cctcgatatc aacgccatcc ttgtagcggt ggaaccaaat 3960

gtcttataga tggttagtga tttctaatta atctagtaaa gatggcataa cacatactcg 4020

gaacgagaat atccttgtcg tgggcgataa agtcttccag aatggtatcc gggctgtcaa 4080

caatatcaac atcccgccag tacacccaag agtgatcggg tttaagagca gagtagagca 4140
```

```
gatagttgcg ggccctgcca atagctttgc gccggggtcc ctgtgcagcg aacgagtacc 4200

tgtcctccac attcactttg tagtcggtgc agaaatcctt ctgtatgatg gtggcgctcc 4260

gaaaagcgac cttgtcaccc tgatcctgga tccgctgaag ttcggaggcg agtgttgcca 4320

ggtgtcatcc ttgggtcccc aacaaggaaa gctaggtcaa tcagctcgtg cgatacgtca 4380

gcttgtagat gaggtcgaag tatctattca aatggaacga agcatccctc agcggagtga 4440

gaataagaac acgctcacgg ttctggacgg cctggttggt ggatttgata ggattgaggt 4500

cgacgttctt gatcgagctg gaattcactt cgtaaggctc gtgatagttg aataggacgg 4560

gagtctgagc atgagcggtc cattcggtaa tctcattgag actcatatcc atcggtgctt 4620

taggaggccc atagcaatag aaactaagcg tcgaaagcga ttagtatgtt cggccgcttt 4680

caaactgaag acaggcccaa tcaactcact tttgcatttc cgaggcagag ctgcttattc 4740

cgcgccataa taaaacaatc aagccagtaa tggccagaga tattaagaag cgtgtcctcg 4800

tcactagaac tagaatcgct cgccatggag gcagcctagc tctagctgac ttccacgtca 4860

caccaccctt tggaagtaac atcctcgtgt gcggtatatg agaaggccgc ggaggctgcg 4920

gagctcggag aatttgatga gtagtattgg taaagaggag gcactgaaaa gtccgcagag 4980

cgcgatagtc cccggcacgg taatgtcacg attgttg                          5017


<210>      5769
<211>      6727
<212>      DNA
<213>      Aspergillus nidulans

<223>      unsure at all n locations
<400>      5769

gatatcagcc cgtacaggta gacacagacc atggcgatgt atccccacgc atcttgcacg    60

gtgtcgccgc gcgctgaggt gccggcaggg tctcgctcga agacgtaccc gccgatatac   120

cacataggca aactgccaat gaacgccccg tatatgagac cactacggcg gccgactctc   180

tctacaagcc atacgctgaa gatcaccatg cccagagttt ggcgacacc gtagaatccg    240

gttgcaaaca gttttgtgtc ggtgctgttg atgcccaggg tctcgaaaat gcggggggag   300

tagctgtact cttcaatgag ccatctcctt gaaattccca gcagggtggg gggaaaagaa   360

gcataaacga tgaagaagaa gaagataaca tactaagtga tgatgttgac cccggtcaag   420
```

11803

```
ttctgacagg ccatcagcaa cagcccgatt ccgatcctgt tcctggtccc tcgctgccac  480

aaccgctgca cgtaatacca cgggtcgtat tttctcccct caggaacaac gtcgtacaga  540

aactgctcac ggatctgttg cagttcgccc tggatgaacg ggtggttggc aggtaatctc  600

cgcgcccaga caagactctt ttcggcatcg ccccagcggt ctttctttgc gtaccatcgt  660

ggcgattcgg ggcaccagaa gatgcctgct aacagcaggc cgccagggag cagctggagg  720

ccaaggggaa tctgccactg cgccatgcgt gacgaggaga tggtgcgatt gatggcatag  780

ttgatccaga aaccgagcat gccgtccccc tgggagcaaa tctcgaagat cccaacgagc  840

cggccgcgga tagatgcggg tgactacact cgttagattt ccttttcttt tctctctttt  900

accgtgaggg ggactccata acatatggag gcgtaccatc tcggcaatgt atactgggac  960

ctggagagac accgagccaa tgccaaaccc tgcgatggca cggccagcat agatcagccc 1020

cagatgccca gacgcggcgg tcttgtacgt gtcagtgatc ggtcagcctg gctagcacag 1080

gtatctctca ccatcagact gccgccaatg caaaagacac agacggccat gacaatcgca 1140

ttccgccgcc caaaccgctc cccgagcgga aaggtaagca gcgagccgaa gaaacagccc 1200

gcctgaaagg tggatacgat gtttccctcc aacgtatccg tctcaatgtc ggacgcatgg 1260

atgaggccaa agtgacggcg gaaggagtcc agggccatag tcccgccgat gacgctggta 1320

tcgtagccca ctacatcatt acccatcatt agccatcgtc aacaggttaa ctgggatata 1380

tcatgaaatt aaaataaggt aaaaaagaac aaaataaaag aaatataaga aaatagaata 1440

aaancgaatc agaatcaatg agagaggaag aacaaggctt gttagtgctt actggcaatc 1500

gcgcccatgc tcacgatcgt cgtgataagg tggatccgcc aatttcgcac ctcaggagga 1560

tcattgctgt tgttggcatg gagactgaag cccatgtttg acggtggtat agggccaagg 1620

tagggcaaag cagggcaata ctgctggtgg ggcagaacag ccttgcggga ggctgtgctt 1680

gcttttttatc tcccaacgag gcatcttcaa acctcactga gtgggcctcg acgtaccccg 1740

caaaccccag atatcgcggg tctggagtct ggacaagggt cccgtccccg cgtgttagac 1800

cattcattta agttcctgtg gtatgcatgg gcggttccgg tccgcgcctt ggccccagta 1860

acgctgctct ttaaagatgc gaagactgcg ccgagaccgt gtgcgggctt ggccacaggg 1920

tcccgggact tagggttgct gtagatctgc aggactggtc agtgcaccta cactggcatc 1980

agtactatat caagggacct ctgccgaaga gacaatatcg ggagagatgc aggaaaggat 2040
```

11804

```
caatgaggga ggccgcttct gccacacctt gtagaatgtc tagttcccag tttcgtatca 2100

gttactgggc gttagccacc ggacggggac tactgggcgt tagggcttct gtatagtgta 2160

aagcggtacg tcgtccacgt ctccgtccac gtctatggcg ggtggattcc gtgtctatga 2220

gtgcgttaac cagaccgagc cgactacaat ctcgagggga taggtgtcct cttctaatag 2280

ccctagaagc taagcaaagc taaacactaa ggggcgagaa aatacctgac cgaccagact 2340

ggcacattta gaatgaacag gatatagatc tatattgata taatcaatgt ccaaacccca 2400

gacagccgat tggccctgga ctctacactt tccagtcttt actagagcgg tgggccgatg 2460

tccatagcca acccgagcac gctgtcagtt tcgcccttga attatattct cgtgtaactt 2520

tattgttaat agttggcata tcttggaaga gctcggcttg accagggctc ggctttgtgc 2580

tctgtgcaca gaaattggct tactggatgg gattgaatag attgcagggt ggaagggcag 2640

ttctagggtt gggagggggt caacctacgg gacggtgttc cctcttctcg tccggggggtt 2700

ggctttcgtg ttttgtcgcg gcgttctgct gtctcctttt gttttgtggt gctcgtcgtt 2760

ccgtcgcgtt tctgttgtcg ggcgttcccg ctggtgtggc tgtttgggct tttcctgggt 2820

ttggggctcg tttcgtcttc tttccgttgt cgtgcctggt ctgttctgac ctataaatat 2880

cccctggaac atgccgtctg ttcctcgact ggataggaaa aggaaacgcc tcccctggat 2940

ctggtaagta gggtcccggg tcattggggt ctgagctaac cggtcccagc catcaggtaa 3000

catcagcata ggccctcgta ccctggtgag tcatagtgtc atcgatatgg ctggtaatat 3060

agagtagaaa tcacaaaata tctgtctcca gcttccccgt cttagagcct accgcgctta 3120

aagtaatggg ccaagggcca ttgcccatct cgctctagtg ggtgagcaga caactggagt 3180

cgtgccgacc tgggtgagca aggagcttgt caggtgggtg agtgagcatc tgtggctggc 3240

cagctcaaga cattcgccct cactagtgac cagccctacg ccgccaatta cctggctgct 3300

cgaagcgccc agttattcag atgagctgca aatatctaat ccagatagtt ctataataat 3360

cactggttgc caaattagtt ccaaattagt gatattattg gctcttgaat gattgacatc 3420

gcaattggga ccagtctgga gattctaggc gccaatcttc atcaaatatc atgcgctaca 3480

gctgcaccgc ttacgattgc taaactacta gactactgaa acaatccttt gcaggggatg 3540

ttataagatg gggtgctttg tagtaacatt attggctgtc agcagctgga gttctgattg 3600

cccccaagct aatgctaggt gactgcgccg catgttccaa ctagcggagc cgtaagatga 3660
```

11805

```
gataggggcc  ttatgacagc  tcaaatcaaa  ttataaaaga  agctgaagag  ttagccttga  3720

gcctattcca  tcatcttata  aatgcttctt  ttttttttct  cgtcttatct  ttccttattg  3780

atcacccttt  ctttcagcgt  caaggctcat  ctaccctgat  cccaagccat  ggcatcgcaa  3840

acgactgaag  accaggctct  gcaccagtta  caacagcagc  agtccaagct  actggacaag  3900

attgatgatc  tacgcaacat  tggcgttggc  agcctcgtag  agttgccgca  acttatcgtt  3960

tgtggcaatc  aatctagtgg  gaaaagctct  gtgcttgaag  ccatctcgcg  tgtcggtttc  4020

ccgcaaaaag  caatgtatgc  acacggttcg  ctactgaggt  gatcttgcgg  cggaatccag  4080

tgtcgaggat  caagatctct  atcgagcctg  gtccctcacg  cattaacgaa  gaagagagga  4140

agagacttca  aagctttagg  cacgagcagt  tttcgaccaa  gaacgatctg  cctgccctga  4200

ttgagaaggc  gaaggagtgc  atgggcgttt  cagagtccgg  cgggctgggc  tttagcgacg  4260

atatcctaaa  ggtcgagatc  tcgggaccag  ataaaccaga  gctgaccctg  gttgacctac  4320

caggcctgta  ttattcaacc  agtcgagagc  aggggctggc  gggtataggg  atcgtccgca  4380

gcctgacaga  gaaatatatg  cagaattcca  ggagcatcat  tcttgccgtc  atcagtgcaa  4440

agaccgacta  tcatctacag  gaggtgttga  atatcgccgc  gagattcgac  ccggggggca  4500

agcgtacgct  gggaatcatc  actcaaccag  acattcttga  ggcgaattct  gaggaggaag  4560

acacatacct  tcaattcatg  aagaacgaga  aggtccgcct  acatctggga  tggcacgcac  4620

tgcgcaatcg  gtccttcgaa  acccgggacg  tatcggacaa  cgcccgcgat  gagcaggaga  4680

aggagttttt  cagccaggga  cgctggacgt  ctctgccgcg  cgaggttctt  ggagtagaca  4740

ccctgcggcg  tcggcttagt  agcgttctgc  tggagcacat  tcgtcacaac  ctccccggat  4800

tgatcgggga  tatccagcag  aagatttctg  accgagaaca  gagacttgca  aagctcgggt  4860

ctccgcggtc  caccattcaa  cagcaacggg  gctttcttct  tcagattagt  agcagcttcg  4920

aacggatcgc  cgcgcaagcg  ctgaacggca  tgtatgcaga  tcccttcttt  ggtgggttgg  4980

gagatgcaaa  agggacaagc  gatattcgac  gcctccgagc  agtacttcga  caactaaatg  5040

aactctttgc  tgaagcgatg  tcgattcgag  gctgtcgacg  cacaatcgtc  gacgaatcga  5100

cctcaggctc  ggcctctacg  acggcttcca  tgccggggtc  agagaacccg  tacatagacg  5160

gctgggcagc  agagtacatc  gaccgcggcg  cactcgaggc  tgaggtcagt  aaacaagcac  5220

gtgaaaaccg  tggcattgag  cttcctggga  gtgccaacca  gctccttgta  gggagcttgt  5280
```

11806

tccgtgatca gtcccatcca tgggaggagc tggctaaagc ccatctgctc agagcttgcg 5340

actccgtgag atactttgtc tttcttgtcc tccagtacct ggccgatgag catacatcct 5400

ccttgctcgc cgcatccgtc attgagccgg aattggagag gatgaaacag gctctctttg 5460

acaagctcga cgagcttacc gcgcatagaa agcgcggcca tccgttgcct gtaggcacga 5520

gtttcctagc tcaaatgcag aaggcgagaa gccaacgttt actcaggtcg ctgaaactgg 5580

atcttcttcg acccggcaaa cagtctgaca cagaggatgg aacaatcgct tactcaatca 5640

agaccttgga gcaggctatc actgacctgg agatgtcccg tgatggattt gcagctgctg 5700

agattatcga ccagatgcag gcatattatg acgtgagaca catttcttta atttctcatg 5760

gtaatctcct ctgctaaatg ctgccagact gccatcttga catttgtcga caacgttgca 5820

atactcggca tagaaaactg cctcctttac cctctccagc gcatattcac tagtcaggtc 5880

gtcaatgata tggaagtttc ccaaatccag agtcttgccg cagaaccatc ctatgtcacc 5940

gaggaacgca agcgtttgag ccaagagctg gagaagttgc aagctggttt gcgcaccctt 6000

aacctcttca agcctatgcc aatagacggc ctatccatat tcggtgtgct ccctttcggt 6060

tttccggggc ctgatacaac tcctcagtga gtgaactgac aataatatgg taggaacaaa 6120

gggcgctaca tccacgtcag caagcgccaa gagcactcct agagtggccg aagcccctgt 6180

tcagtgtaag tatgcatccc tcactctggg aattctagct aactgcgccg taagcggaga 6240

acgcttcaag tcccagtaac gctccagttg ctaataccca gccatcagtc tcaaagagta 6300

catccagcgc cactccagct ccctcaagca ctatctcaaa gccagctgca gatgcttgtt 6360

cggccacaaa tcccagttgg gatgttcgtg cgagtcaaac aaactcctcc ggtttgactg 6420

cacccgccaa agttacaacc cagtctccat ctcctcgtgc ttcttcgccg gccattggtg 6480

tatcggcaga tagtacgaat gcggcacctt cgactcgcag cacgtcaact acctttgatt 6540

catctgcaaa ggggagaatt ggtgctgtct ttgggtcgtc tggcccggaa attagtgccc 6600

ctgcaaaaag tactagcggt tctggttctg gactgttcag cccttcggtg gacgcatcta 6660

caagggatac gggcccttct ggctctggac tgtttggcgc cgtgtccggt ggccctgcaa 6720

agagtgt   6727

<210>   5770
<211>   4812
<212>   DNA

<213>   Aspergillus nidulans

<400>   5770

cgccgataat atcactcact tagcgatcgc gcaggtcagc gtcgcgatta ttaagcgcct   60

ggtcgctctt ccgacgagcg aggctggcat tgcgtaattt gtcttcggcg gcgtcgcgag   120

cggcagcaag gtcgcgattc tcttgcagta gatgttcgag tcggaattca agctcttgga   180

ggttgttgca tactttggcg gtgccggaca ctggccggtc ggctaggcga ccggggggaa   240

ctcggcgtct caccccagcc ctcctactac tattagcatc caagcaagaa cgaccatcaa   300

aaaagacaat caagagagac taagacttac atagacgtcc gtcatgctgc ggaggggctt   360

tttgcccttg tctctgatgg ggtcgtaaga ggaggaagat gcgatctcgc cgacgtccag   420

gtcggtgggg gctcgagctg gaggctgggg gatggccgcc tgtgattggt tggtgctgtc   480

tggagctggc tcatcggccg caacaatcgc tgcaagtgct gctgcgcgca gatctccact   540

ggcactgtgc acgacccgtc gcagcgagtg cgtgctgctt ttggcgctcg gcggcctgct   600

tggtcgaaga actggtttgt cttgctcggg ggttttgaga attcctcgta accctcgctc   660

cggagagagg ttcttggggc taggcttctg caccttctcc caatcgtcgt cggactcgtt   720

ctcaggcgta ggccatgcgc gccggcccag cgcattctcc gtgaattttc tgactggtgt   780

ttcgggtcgc gggaggacat gttcgggttt catctccagc cggggcgtac cgtcccgtcc   840

catggctcgc tcatgttcct gttccgcaat cggcggaagg ggactgggcg agatatctcg   900

ttcgcggcgt tcttttgcgg actcctcaag agaccaaggc agtgcttgct ggacatgacg   960

cccgtggatc gatggcgacc gacgaagctc acacgtagac ccggactctg aaactgggtc 1020

tgcaatagat cgagactctt cccgagaccc ttctcgagga tccttgattg gccgctccat 1080

atcaatatca ggtttgttag cggggagttc ccttgtagct gcaatcccaa agacatcatc 1140

ttcttgagct ggctttgatg tagtgtcctg cctagactcg tgttcaagat tttctggcgg 1200

acccgatgtt tcgatcttcg ctggcagttc tattgaagca gcaccaacga catcatctgc 1260

aggactgagg atataccCgc tatccctgac ttcaggctgc acctttccat ttttagcgat 1320

aggagcctcc aagacctgga tcgcattatc gcgactcgct tcctttccgg tctcttcctc 1380

agccccatct tttaccgact gagtcgggct cgggttcggg ctcggtctgc gaaagaaccc 1440

tcgctcgagg ttgggaaata tgctggcaat cttgtctgac actggaaccg ttgtcttggg 1500

11808

```
ctcttccgct ttctttcctt gcgcagactc tacatgatgt agggcccgca gggccgaatc 1560

ggtgccagtc gtattaaatt caactgttgt cacgtctcgc tcgatagtgc cagtcatggc 1620

ttgggctttg ccctctttgg ctgcttcttc gggaattcca gtcacacgct ctataagagc 1680

ctcaggaata gcagactcct tgaactcagg tatctctggt acaaacggag ccgcatgagc 1740

ttcaggggac gattgagcag attgatcggt ggcgtcaatc ttacctttgt cccagtctat 1800

agcaggccat gcgtcttcat cttcacgggc tgtttcttga gcttcgaccg gctcgggagg 1860

tgtgtgggag ggttggttcc gaggttggct ggcttgctcc gcctgctggt cttctagctg 1920

taattcttca acgtttcct tgctcttctt ggaaagcggt ataccctcct cttcgattgg 1980

ctcagcaatc ggctccattg actttatagt cggtgaaatt ctctcgccca ccaattccct 2040

cgagtagtct gtcttgggct cttctatcat ttctggccca agtgtagacc ctgggatcga 2100

gacctttcct ttcaagactt ccacaggttc tgccagcatt tgctcatctt cttttccctc 2160

aggaacctgc accacagcct gcgggaccga gaattcatcc ttgactgcgt ccatcgtctg 2220

aactgggtct tccctctctt gcttctcagc ttgtttcttc agcttcttct tctccttctt 2280

ggacattttc cttgtcaaag gagcaggcgc agactcaggc tcaatggcac aactctcttc 2340

cgcagtagcc gccatccttt ccgttttttgc gacacgttca accgaatctg tctgtaactc 2400

tagctctggc acccgttttt ctcgcaaagc ctcctttcca gattcgactg tcattttctc 2460

ccggatatcc tcccgcggta catctagctc cttttcagta tcttctggaa ctccctcccg 2520

ctcctccctg ataacttcgc actgaaccgg cttttctggt gccctatccg tttcttcatc 2580

ccctttcgct ggatcatttg tcggttcatt agttgatcca tgatgtagct cgacactctc 2640

aacaggttct accgcagaga attcagcttc aacggcatcg gctgccttaa cgtctttccc 2700

aaccttcgtt tctgcaatag cagaagcagt gacctccctt tctaactgct cttgcttctt 2760

ggcctgtttt tttgccttct tattttttctt tttagactcc ttccgggtca aagctgactc 2820

gtcgagagca gcaggaggct cctcgcgaga cttatctcgg gaaagatctc cgagcgatgt 2880

tttaggttgc tcattctccc ttgtcgcttc aaggagaatt gactctggag cttcaacttg 2940

aggagccttt tcctccactt gaggaacgac ttccagctgc tcctcaaact cgcctttttc 3000

cataggcgct ggcactggac cttcgagttg aggtagcccc attttaatgg cagtatcggt 3060

ttttcgctgc ccctttttgtt cggctggctc taaaggagta gactctggtg cttgattctt 3120
```

```
tgaagattca cctgtcctct cggtctggat agcgggctct gtagcactca caggattccc 3180

tttagaggag tagatctctt caggggcagg agatgtactt atatcgtgga ctgggcctgg 3240

gggtgcagaa acgacgggtt gcgcatcaaa ttcgggtagc tccgcgtcga gcttgctttc 3300

gtcgacactg acccatgaag actctggtct agcagtctcc tcaagcacta aggctgtgtc 3360

ttggacagct tctggaaagg caggctcgac aagctcgtgg tctgtggtgt cgaagtctag 3420

gggctcaaga gtatctctgg tagtggcctc cgcagctgcc tcctgcagag taggctcttc 3480

agtaatcttg atgtcgcttt cggccccgtc aaagactgaa ctatcgacct tggtctcgtt 3540

tttcgtagct aaatcggggg ggcccgaagc ctcctccgta dacgccgtct cctcctgcac 3600

ctgcgaagca gcagccttgt ctgcttgtcg ttgtttcttc ctctgcttct tgctcagttt 3660

tcttgaagga acagctggct cagtcgcaga ctctacgctg acgacatttt ccgtggactg 3720

agtgggttcg gcttctttag cagcctcagc ttccgttatt tgttccggga ttgcttcctc 3780

caaacgctct tcgacagccc caagtgcttc gaaagtacta tgtttgagtt cttttgatc 3840

cgcctcttca agtttatcag ttgcatcatc tgaattttct ttctgctcac tttcattctg 3900

tacttcctct cccagacccg tgaccacctc aatctgactg acgtcttgcc cttcaagcat 3960

agcatcgtcc cacgtttcaa agccagcgtc ctgttgactc tcttctacca cttcaggatc 4020

ggcagtagta ggcgcaggct cgacctcgat agcccccttg tcgacttcgg tactttcaga 4080

ttcactctcg gggataagaa ccgggaaggc tatgtgttgc ttctctttct ctacctgcga 4140

agacacatcg ttatcagtcc aagtcaattc tttatcggtg ccgccgcggg attcggtgtc 4200

gtgggactga ttatctttac cgtcttcttc tgcaggcgag aatgccgtct cagcgggtac 4260

gtcaatcttc atttcacttg tgccaggtgc aacttcgttg gtcggtattt tggagtctag 4320

agcgtgctcc gttggagtgg atggtacggt atctttctcc ggggcgagca gcttggattg 4380

gcgctttttc tctttcttgg cccttttttt gtccttcttg gagagtcctg tctctggtgt 4440

ggttgtctct gcagtcagct ccatagcttt cgactcgact tgttcaagct gtgaagcgga 4500

atttggttcc tcggttttgg gaatatcagg tccgtccttg agcaggtccc cagaagcttg 4560

aactgcagag acctctctat catcatccag gggggagtca tttgatgtag gttcttcgag 4620

gatttgttgc tcattctgct caaggactgg ttcgtttccc ggaaccggtt cgggagatgc 4680

agtaacttgt tcggtgactt gttcggaggg cgcctcacat tcaacagggg catcatttga 4740
```

tactaactct atagcctctg ttgagtcgaa aactaaaggc tcagtgcgta caggaaaacc 4800

agaagtttcg cc   4812

<210>   5771
<211>   5126
<212>   DNA
<213>   Aspergillus nidulans

<400>   5771

tgcatgatga ctaaaatcca ttgtgggcgt agttacttca ttcttgttga tgctctattt   60

agaagatgaa atggggatat gtatatatat caaaacaaac acgaacagta tcaagcttac   120

agccaccacc aaatcattct gcgacaccca cacctccact ttcgccctgg gtcaggaaaa   180

acacatctac caccccuccc agaccctatc cggcaaaaca gtcctcataa tcccccagtg   240

ctccagcgcc gagcgatcct gatacttatg taagcgacca acctctttat ccactagaac   300

cctgcgccca tgaccttgag gaccgtcctc taacccgaca ttatcaaatt gcgccgcgtc   360

gacctcatgc tttggtacca ggtaacggga ccggaagcgg ctgcccagga agtcctcggg   420

aacggggtcg cggaaggtga taggcgcacc acgggatttc gtgcagaaga tgaccatgtt   480

tgtgaagtcg ggcccgattt ccggggccgc ggcttcacgg aagagacggc aggttgggaa   540

gatggatttt atggtccgga tggagagggc cgtggaatag agagagatgt cgccggcata   600

attcttcagt cggttagtta tcctgcgtat atttagaagg ttttgaggtg ttggggagg   660

catacaatgg caataacgcc gtcatccttc aagagtgcgt gtagaccact aatgaactca   720

tacgtgaaga gctcaacagg ttctgcacca ccagtaaaga cgtcgtggac aatgtagtcg   780

tactgcttgg gttggggtgc gtttcggctg cgctggacga aggcccgcgc gtcttcgatg   840

ataggggtgt ggttttcggg gagatcgaag tactgcagag catacttgtg gacaaccggg   900

tcgatttcga cgatggtcgt gtcgattccg tggcttatca gcgcgccagg ggttgtgcca   960

attccgagcc cactgtgaaa cgttagtgtc ttctgtcagc ggaagccatg ggggaaaagt 1020

ttacatgacg agcgcgttac ttcctgcgtc agaaaatggt ataccgtgcg ctgtctcgac 1080

gagtctcacg gcctccagca tagtaaacac agcgtagata gggtccttga cagcgggagg 1140

ggtgtagttg gggcgctttt tgatccattg gccaccaagg aggctgtggt cgcatctcat 1200

gacgcggaag ccatcctcaa gattgtcgag gacggagata taccccgttg tggaatcctg 1260

acgggcgaca agagcgaatc catcatcggc gatgatgttg ttgagggctg tagtcgtgtg 1320

tcccaacggc aggtgcgtgt ttgaagtgac agagaaaaga aaagcaggga tagctagaag 1380

gagagcctta gagggaacgg ctgccgcgta aaagattgca atcaagatct gaagacccgc 1440

gcggctgagc agcacagtcg acccaatgaa ccttgacaag aaggccttga tcaagtgctc 1500

gccggcagag tagatgacat acgatcccag tagagggata tgctccgcaa ccagatcgcc 1560

atgtcgttgg aggttcaagc ctgcctgcac caatttgccc gcacaagcca cagagagcag 1620

aaccagcggg tataacgcca gtacttcggt gaagattggg ccagcaggat ttcccagcgc 1680

cgagctctgc tgggagacaa agtactggac aacaggcaga aagaaggcca gcacagggat 1740

agcgtagatc gccttgcgcc cagacacccg gtcgacgatg tccttggaga accagcctgc 1800

tacgcctgcg atgccgacgc cgtagccgtg gaagatgtgc gacggagttg acccatagac 1860

tggggccagc gtcaacagga agacgtagga gtagaaagcc gcaagcacca ataaggctgc 1920

tccgactacc agcttcttgg tagcatcttt ctcatagatg ctcctgaatg gcgccatgtt 1980

actatttggt gatcaggcgc agacagagct cctaacaggt gtcagttgga ccgtggacat 2040

taggtagaga tctgccaagt tatatgccaa gacaggtgaa acgacagggg tctcttacat 2100

ttcctcttcc agccagttat ttgcagacac taatgcgctg aagcgtgata tcttgacagc 2160

ttcgcctgag cgctcgaatt ctgattgacg cagtgtggaa acaaatccct aaaagactgt 2220

acggtattgc cgcccgcttc cgactctcat caaccgcacc tcgcatcatc accaccacta 2280

ccatcttcac cccgcaatcc aacaatacaa tccaacaata tcatcaacca tgcctctttt 2340

cccaatggga accggcatac agaatgacga gagccgagct ttcgaccaaa ccagccgaaa 2400

ccatgctcct cccatccccg ctgcgacgca aaagaaaaac cggcggaagc gttggttaga 2460

cctgcaccca gagtacttct ctgcagacct cgagctagcc ggtccgcacc tccgcttcat 2520

ctcatcttca tctctcagct gattcttcgc cccgctcaga ggagagctaa tactgagtac 2580

cagacccatt actctacgac cgtctaatcc gacgcttcca aacgcccgcc gagcgtgaag 2640

ccgaaggacg tgcaaagggc ttctccggcg tcctccaagc cgacctgctg cgatcggaag 2700

cgaaaatgga tgcgctaaat cacccggatc cgcgctcact gttctcgtac actcgcgggc 2760

cgaacgggga gattttggcg gaggaccgcg atgagattcc ggcgagcaag gaggaaggag 2820

agaaggcgtg gcgttgggaa atgacgatgc gttttctgag gggagaggac acagactttg 2880

11812

```
attattcgac tgtagatggg aatgaggatc ttgatgatgc gaatgaggaa caggagaggt 2940

attttgatga agaggagcct gaatggtgcg ttgaagggga agaggaaggg gatgtgagaa 3000

acaggttgac gggagagact gggattcagg atttctgaag catgatatct accctttcctc 3060

cgcggccagt ccgcgaacat cccctacgct ctaaccagcc gctcttcagc taatcctttg 3120

ttactggttc ctggaaacca ccccccttgac ggtccgccca aggctctacg cacgtcctta 3180

tcacccgccc ggtgtcaact gttgcactag ccagctgacc gttcttgagg aacagccacg 3240

aaaatgctga gagggcccgg gtatagccaa agcttttgcc gatgtaagaa cacggtgtga 3300

agtatgattc acggtgttat gagcggtgta ctctgagcca tgtctgtatc agcagaccct 3360

tgagatcctg caattcgcac aagccgagta cctctaaagc cataacaagt cgatgatcga 3420

cttaatacag tcgcctgaaa cacttagcta ccgtatcggt taggtatgtt gaactaggta 3480

tgtccatggg tggtcttcat gattctatct ctatagctgg ctagatgcta tatattggat 3540

cagaatctgg tatcaaccga aaattatagc cgtctacggc cgagcccggc ttcgaccgta 3600

gggcccccaaa agaaaagaag ataatctcca ctccgcaacc ataacaatga ttgctttagt 3660

agcatatacc tcgtgcaacc tattatggaa cattagagca actccagcac gtcctagcag 3720

gttgctgatt tgttgagatg ctgctctcag tgcccaccca aaagcttgat cgctgtctcc 3780

ttaagcttaa atttctggat cttcccactt gccgtcttcg ggaatgaatc cgtcggctcg 3840

aggaagaata tatacttcgg cactatgcgc aaaagtatca gcaccgcccg aatcaaaccc 3900

agcgtcctga agatcagaag aaagaaaaat agcgacctac caagatgcgc actcagtttc 3960

tcccttacaa acttcctcag cttctctccc gtctctgcct gctcttccgt attctgatgc 4020

gcctgtttcc atatcacaaa agccgccacg acctcgccat aatgggcgtc ggggaccccc 4080

acaacagaga catccgcgac accggggaag gtcaagagac agttctcaat ttcaagtggg 4140

tgtatgttct cgccgccacg dataatcagg tctttaatac gcccggttat ggtgacgtag 4200

ccgtctggcg aaatagttgc ttcgtcgccg gtctagacgg tatccctggg ttaggtcttt 4260

tgagcaggtg gatcgggtga tggaaagaca tacatgcatc caaaccttcc cgtctttatc 4320

cttcagcatc acctccgccg tcttctccgg atcaccccag tatcctttca taagcaggta 4380

tccagacacg gcgagttcac cgcgagaatt tatagggaga atcttgttac ggtcgagcgg 4440

atcaacgacc ttcgcctcaa catgcggcat cagacgtccg acggtattga ttctcttatc 4500
```

11813

```
aattgggtca tctgtcgttg tcattgcaga cacgggactc gtctccgtca tgccataaca 4560

gattgtcagt tccgttagat tcaacgtctt gtgaagcttt ttcatcagtt cagcggggat 4620

actgcttcct gccgctatgc cggtacggag atattcaaat cccttgtgtg ggacctggcc 4680

tgattccagg agcccgagct cttcgagaaa cattgttggc acaccgtaga gggctgtgca 4740

ctgttcttcc tggacggcgc gtagggtgtc cctggcatta aaagcttctg cggggaaaac 4800

aatggccgac ccatgcgtcg ctgtagccat gtagcccagg acggagccga aacagtgaaa 4860

gaggggcggc ggacagcaga ctgtgtcggc tggcgagagg cgcatgcggt cgccgatctg 4920

ggcgccattg ttcaggatgg agcggtggct tagacaggct gccttgggca tggcggtggt 4980

gccggaggtg aattggatgt taacaatttc attgggagtc aagttctgct cagggagcgc 5040

agcaccgtcc gcagggttga gggacgtgat ggacttgtaa ggggtcaggg ctttgaagga 5100

aaagagggag ctgttggtgt tgatgc                                       5126


<210>     5772
<211>     12089
<212>     DNA
<213>     Aspergillus nidulans

<400>     5772

catacatcca agacccaaca gacccggccg tgcccaatac gcaactcgag gtgctggact    60

gggtggatgc tcatcgcgtc cattctcccc gggcttacaa actaccaatc gtgaggattg   120

ccgatgagag gcctcttctt cgagtcatgt ccgtcccatg gaagctatga ttacccagtc   180

aacagtcaag tactgacctt actagatttc tggaacccaa atggccactg acgggcttc    240

ctttactgat cgagcactac aagatcccta ctgcgttctt cgagggcggg attcgcgcgg   300

tgacacattc gtttggctcg ctggacacag aggatggata tagatgttcg cccaccccgc   360

gcctccccta atcctggcaa acctaggcgg cctggtaag aaaggaggcc atgctaacct    420

agacgacagg ctgctggttc gactacctct gcaagaacat cacagtcgct cagagtcccg   480

gcccggagcc cgtcatctca gatcaaagct gtaattcact accgcagatt cgacagagcg   540

actttacctg gacacgggcg ggctttttcc tgcgatggcc cattcggtcc gaaaatcgac   600

ataacctgac aatggtctat tttggggcca atatggtcta cgatcggctg accagattgt   660

cctgcgaggc tgtgaaggag ggggtcatac acgatccgat gagtttgctg gtggtggttc   720
```

```
tacatcagct ctcggcaagg atggacgaga cggtgtggaa tttgtcgatg gtctttgggg    780

gcatcgaatc ggtaagttcc tttctctccc ctgacaaagg tgaaaacttg gtcctgatgc    840

cggacagaaa gcactcggtc tgcatcgcga cagggagtcc tttacggggc tgcataatat    900

ctcgaagcat atcatctacc tccaagagag ctcagatgcg gctctggaaa cagtcaaaaa    960

cctgcatcac caccacaagg atctatctcc cagcgccacc gaagaagaaa gggctgctgg   1020

taacctgacg cgcaggacga tggcgcagat cgaggcggag tttcagaccg tcaggttgcg   1080

attgcgcagc ctggataggc ggatgcagaa tgtgattgct ttagtgcgtt gctcgtcaca   1140

tctcctaaac tctagggcgt ggtgactgac ctgcgacggt gcagtcattc catctagtca   1200

cgcaggaagg gaacgagctc attcaagccg acagcagcac catggctacc atcgcctttg   1260

ttaccttggt ttttctgccc ataactacgg tctctgtgag tctactcccc agcctcgtcc   1320

tgcatccaac cagcagaaac tcactcctgc agacgatttt tggcagccag ttcttcaaca   1380

cggcacccga caacgcctcg attgaagtgt ccaaagactt ttggatcttc tgggtcgtat   1440

ccattccact gacactcgca gtgctccttg gttggtctct ctggcagaga aaggcccttg   1500

tcggtagtca cattgcccgg aagggcatct cagggccatc taattccagc gctctccatg   1560

ccgcggggtg agagaaacag ggatgagcac tccttgttct ccttcatgtc cttgccctgg   1620

tcaacacagc gaagaaccgc actctcgact gaactcccag actttacgcg tacgtcgagc   1680

tggcggaggc ccgatcccta ggacaaagtg tagatccgga tatgtagcgc atagcctcac   1740

tcacataaat tgaccggctg aaccttccca ccctaccata ggtgatataa tccgtccaat   1800

caatatagat atgcacatta acttcattac aaatcagcgg attataccgc ttcccgccgc   1860

cactcagcct cgtaggattg tcagtcttct cggcatgcat tttggtgtta tcactgtgtt   1920

gctagtaccg tcgatcacca ttaaaagtga tcatctgggg ttagctcgag cgaatcgctc   1980

tagcagtcgg cgaaccattg tgcttgttcg ctgtggcgtg ggggatggca atagtcctag   2040

attgtgggat ctgtcatctg ccgcgaaaag tgctctgagc cctaactact gaatcgggct   2100

gtttgaatca tggcgtgagg ctcaagtagt ggcgtgccgt cctccttcct acaaagccgc   2160

gggatagcct gttttgcttg tcaactactt tgtctgcctt gtttgcccat gttgctggaa   2220

gtctccgtca aatcgcagtc tcaaggtgct ccaacccatc acagcagtga aggacacaaa   2280

cgaacagaaa atgtctgatt ccaattctgc cctcgttgca ggctcatcac accggcttgt   2340
```

11815

```
acgtagattc tcgtgtcttt tgcatactcc agggctttaa gttgctaacg attcctaggc 2400

agcctcttcc caggagcctc tggtactaga tacattaaat actggcgaac atcgaataga 2460

cctcagttct tacactacag acaatccaga caccagcacc aaccgtaatg gcaacaggtt 2520

tgcagagcca aaagtgagta ctttgctgag cccaaagaaa gtacaagtaa tagccactga 2580

cctttatctc cctcttctca tatagagtca tccgaactcc ctggactttc ccagaaatgt 2640

tatccgtacg gtcgcggtca aatttaatga gatccccctt ccctggaccg ataaccgtcc 2700

tattgaaccc cctggcttaa catacagaga caacactgag caccgccatc gagacgtcct 2760

aagtcgtatc gaatggcacc gtgaagacga ccgctacctc agctctacgg acggccgcct 2820

gaaaagactg gttgtgcaag ccacagatga cgtgcgtctt ggtcccagaa atgggacgtg 2880

ggcgagaaca ggaatccgca aagtcacgcc cattcagctg cggattgtct attgggttct 2940

taagagacat attgaaggga ggagatggga tgtcctggag atttgctgaa gtgggttccg 3000

catgttggtt atcgccgtgt ggggagcttt atcacatgcc aatctaattc tttgatcgct 3060

ctgtggctaa taatgcagct ctttattccc gctgatctcg gtggcgagaa gcgcaacaac 3120

ggcctctatg agcagttcaa atatcacttc tggggatact cctacatccc gagtaacccg 3180

ctcgaggcgt ccacgtcctc agacccggca ataacacttg cagatgggat aaacggcatc 3240

acagagcgtc cccttcggcc gcgatatctc tgttttcccg ctgagaacgg gagcgtcgac 3300

attgtgagag tcgccgactg ggaagcccag cacggccggg atgctgttct ggagtacatt 3360

tttatatcct acacatccgc gcagtttgac ggtcccgatg attgggatta ccttcattct 3420

gttgcaaaag cggcggttcg gagcgccggt gtgcccgcat actggatctc gtgcagttgc 3480

atgcccgatc ctgaggaata ttctgaggat gtttatagaa tcagcgatat cgttcggggc 3540

tcgcattcag tcgtcatcat tgtcgggcct cctatcagca atccgtcggc agagtttaac 3600

atgaaggcca tgctacagca ctggggagag cggatatgga cattccctga agtgcttttg 3660

agtcccaaca ctcatcctct cgccatctac atgcgcgctg ggaatgtggc aaaccccacc 3720

tatctacaaa aacgcaattt tcccgccgta gcatggacag atgcccctgt ctcacgtcaa 3780

ctggttgacc attatgaggg ctctatcctt ctcagcccgc ttgaactggt caccctggcg 3840

ctccaatgtc tcagcggcag ggcacacaac acagctcctt ttttcccggg agatctaaca 3900

tacgtgttga tgggcctcct gcgacgcaga ccaagggtca acaggaacca cagcgcattc 3960
```

11816

```
caggaattct gccgcctatc tcttgccaac gacagtaacc ggctgctgga gcgcctcata   4020

tgtctcctcc ccagccgccg caagcgagaa gactcctggg aatggcatga catagatgat   4080

acttggagcc gaaatctctg ggacattacg cctctttgcc aggtagacgg ggttggcgaa   4140

gacgatactg taatcctagg cggcggtttt gcggcgccca tccggtggaa atcattcacc   4200

cccgtcaatc tgctcctgag aaacacgatt aagcgaatgg tttttcgggt tgctgtgcgt   4260

gcgatgccga gtgttttagt tcttggcgcg ttcttactcg ccaccagtca ttcccagggc   4320

gggtctcttg cagtggtaac ggcactggga tggctactca tggggcctgc catcataacg   4380

attctgcttt ccccgaggct attggcaaag ctgtacatcg gtaagccgtg gcgtgcgcag   4440

ccatggctct ttgggtttga gggttatatg cctattggtg agattgagac gaatattttt   4500

ggaaccgatc taggtaggtt gaagtgggcg ccgtattcga gcgagctgtc cagacatcag   4560

aatacggagg gtgaatgtat aggcgtggat cctatggcgg attctgcggt ccgtgagatc   4620

atcatcaggg ctcgaggctc aggatatgga gaagagaaag tgtttacact tgttgacacg   4680

aatctcatga ctgttacgct gtttagcgcc gttcgtcctc ctgtcgccct ggtgctttgc   4740

gggagtgaag gcggaatgca gaggggctta ctatgctctt acgactggaa gagtcagacg   4800

ctttatcgtg agagcgtgct gagagttgat acgatggtgc ttgagaagat gagtagggtc   4860

gagcggttca agctaggact aaggaggccg ctggggaata cgaatgaagg gacacccagt   4920

gaaacttaca gtgatgagca ggattgatat gagtaggcct gttcaatttc catagacgca   4980

gataatgtat cattgatctt accttgggat accctggttt tactgtaaac tgcactggat   5040

ctctatattt gtaggcttga tgacgctatt cgcttccagg aaccgtctgc atcctgctgc   5100

tagtatacgc ccaccttcta tagcacacat atagggtcag acagatggct ttgctctcag   5160

attgcaactg gcataagctt tgctgatgca agtgttaggg ttggtatatc accttgacta   5220

tgtttttcac tacggattct gcattgcaga taaccttgga taaacttgat aagtatctca   5280

cgatgtcaaa tttacttgcc tcgtagttac agatcgcttg tctcctggat taatctgctt   5340

ccatatctac ttctctgaca tgttatcata tacaaccata gaatgtggag accagggttt   5400

cctgtccgct caactgcact tcagtcacca ttatctgctt cagcctacaa ataatacatc   5460

caatggtcag gttgtgcttc tcgacactta gcacctttat agttctcttg ggatattgcg   5520

cctagcagaa agagaaagat ttgagggcga cgttggaatc ttcacaccaa ctgtgttctg   5580
```

11817

```
gttcagacaa ggcaaggagt tgtagattcc tcgtgagaac tgccttcaag aacaaaccca 5640

ggacctaaga ctcgaagacc aaggggagga gcgtactagt tagattctta acagcgcctt 5700

taggctaact tacataaaca tcccaatctg actactaggc taatatcatg tttgatgcca 5760

tgagcatcaa ccgctactcc ctaaacatgt ctataccgct ccaacccaca tcggggccac 5820

gaaacatgtc gctcctacct ccttcaaggc ccatctcgct gtatcgaagg ccgatgcacg 5880

actctgattc tcgcagccgt ataacggaca aaatgcattg cgattaattg accggcgagc 5940

ccgattaatg gagataatgt gccgtgctca caaaactagc ctgctacatc tgcctatgag 6000

aagaaggaag tcattcacac attcattgaa ttactcttta accttatgtg caagaaactt 6060

cacaagctga tggcggttga gaaattctgt cttttgacga tcataatcat gttgcatctc 6120

tctggacatt ccgtctagta atgtaatatt ctaccaagc cagtcaatga acctaggtcc 6180

ctgaagtgct atacaatcta tcgggtatga ccctattgga ttctatagtg atcttctggt 6240

ttagtgttct aaaccgtcaa acatcaatta taccagtccc gggctatagt cgctcagctt 6300

cgggtgaacc ggaatgaatc ttcgtataat ctatagatat tttgaaacca tgtcgcatcc 6360

gcgagagtac gggcgtttca gaccatcatc taagtcgtct ggacacgctt agtcccttga 6420

cccgctagcg acttggttcc gagaaatttg ggccatgcat gtcaatattg gagaaaggca 6480

cgaacatgtc atcgtcttcc ttttggttga cctatgtcta catcgcctaa gacttcctcg 6540

gctaagctgg tctcgcgcct tgcacttttc cgctagatcg gggttcgtct atagtaggag 6600

aggcccctcg agagccccgc agtgcaatga aaagagacgg caatttgaac ctcgtcaata 6660

ttactgaaat aattcttgta aaggggttct gccgactgga cggcctcttc tagactctag 6720

gcgagtgaga catttgtgcg ccatcgcaca gaagtaaaat tgcacccatg cagtatctgt 6780

ctagcatact ttagcctcgg tcgagtattg cacaaggaaa aattgactac ctatcaccag 6840

gtattaagaa cctaccgaga caccgtctag gttgtgacat cgaacatgcg tgtccccact 6900

cgccgtaaat gcgcgcaaag gattaagagt atatgagctt gagaagtcta gaactttcgt 6960

gtatggctgg cccctgttct gacctagtgg tcaggggtgt caagcatgaa acaaccgcct 7020

gcaactagtg gttctctgct cagacccgat ttatttggct caaatggtgc aagcaacagt 7080

aacgaggacg atgcgtcgca ttgcttttga taaaccttaa ggtacatcac tgtagagaac 7140

atcagcagta tggttgtctc agcatagact aggactctga agtcgacgtc tatgtggttt 7200
```

```
acctatgctg attaccgcat agcgctccac aaaggtaggg cagaacgata gggtaatgtg   7260

ataccaccgc taattcagtc ccggtcagga actcagcaga tctctccgct atatataatt   7320

atgctaatac caaattacca gcaggcttca aataatcaag ggcactatcc cgtccaccag   7380

tcagccaaac gcgcagaccc ttcaagatgg aagctacttg ctgtttcatc tgcctcacta   7440

gctgcatggt cggttccaag acataataca aacaggccta gggaacgcca gcacggatat   7500

gtcgacaagt agacgcactg aatctttatc cggctcagtg ttggctgtcc ttgactgtct   7560

agagtatcag ttgatgtata ttctggcttg atattcacaa gtatcttcga atataaacga   7620

cagacggagt agccaatgac ctctgagtca gctcggatac gtcgggtatt ttcaatgcat   7680

gtacagagtc ggtaaataga atttacataa ataaaaatag cattgtcgac taagacctag   7740

gatagacatt ccggtctcgc ctgtttgttc cggatctcac ataattcctt atcctacctg   7800

gaggattgcc aacaaccatg cctccaggag catttgagta tcagccctgt acttagggct   7860

gagggtggca tgaccagagc tcttaggatc agccctaagc ctgatcttcg attactgcac   7920

cggtcaccat tcgcacgagt ccggatgcta tccatggatg gcatctcatc actgggctag   7980

attttttgcc caccttcaga caaccacgac atcactttcg cacccgactg ggctctctcg   8040

ctgctcacct gggccacaga acaataccat ggccttttac atattattac gctttacaag   8100

cggtatattg accgaacgca gccctaagca gccaccaaac atctcgcctc caccgtcctc   8160

gctgcggcga ctggtgcacc ccgccaacta cgcccgccat gatgacagct ctccatgccc   8220

atgacttcac cgtgcaatgc cccttctcca acctgcctgg aaaatgacgt caagctgatc   8280

cgtaacatcg tctcatcgct cacaaccagt ggccaccgca tcctcatggg catgcatggt   8340

tacggcggtc gtagggaccg aagccgtgcg gagtctcggc tatgccacat ctacatctgt   8400

gtctacatac acacatgaca cttcatctgg ctgggcaata cgccaccagc tctgtgcgta   8460

aatcctctgc ttgcctcaaa cgagaacttg ggatatcgtg accgactggc tctgatcgca   8520

ttctcgacga tccacacaaa gaaacgagca ggacgagaat acgtccccgc tggatccggc   8580

gaggaggttc gtcgggcgcg acagtcacgc agaatgctat agatagcgca tcgggccgct   8640

gttctagttt cttcggaata ctggtgccga ctggctggca tggcgactgg ggtcccgagc   8700

attgagtcat gagcatggat ttccgagcct ctaccaggaa accatgctga ggcaagtcag   8760

ggaagcgggg gtggagacca gctccaggag ttcgatacgt gtcatagtgc ttttgttccg   8820
```

11819

```
agagataacg agacgaagag agttgctctt taaggggctg agctgcatcg tcctcagaag  8880

ggacgcttga aagtcggtct gaggctatga atagaagggg tttgcatcgc cacgcgatac  8940

gagcttctga aggatccagc tgcttgtcga aggaatccag gaaggtctga gcttcctgtc  9000

aagatcgtgg agacactcga ttcgtcaaca gtagcggtaa atccgaaatc gggattggca  9060

gtctcaggcg cggctgaaac ttgatcaaat tcaactgccg tgaatgaagc cggttaccga  9120

gtagatcctc tctactagtg ggatcgaaat agtctgagac cgctgacgta gcgatacgac  9180

cttgtcagca ggaaatttga agatcacgat ttttacgata agcttggagc gccttgtcct  9240

ggcttgtctc actcttcacc ctgagccatc gtgacaccgc tgcggcaggc ttgcatgtct  9300

ctgctgcgct ggtgacagcc ctgttacgtt ggaatgactc ggtgttggcc tagcaagtgg  9360

ccgacagaga ggggcgagag tcaggttggg aaaccaaaac gacgtatcat attgccccga  9420

aaccaggtga aagtctcgac gactcgcccg cggagtccgg cttgaaagat tctatgcaag  9480

taccgtgctg tcggtaatcg gtggttgggc attggctagt ctcaagggtc tcatgcatgg  9540

catgacgtgc cctaactggt ctgtgctggc cggggcgtcc caggctgggc agcctcatag  9600

ccatgcccgc tggtcatccc agcaggtgag actgggctat gcggcttggt gtcgtgagag  9660

gtgttggtgg gggccggggg aactgcggag aaaatatcga tattggatca atatgtcttg  9720

ctgattgcct cgcatctttc gcctagccta ccctactcca tcctatccaa cctaactact  9780

ccaactaaga cagcttaatg cctgtctggt ctatagcaac ctcattcacc gactcgtcta  9840

cctgcattta cccctcatgc acgaactcca ccaacggcaa cggcactcca acccccctca  9900

accgactcag acagactccg tactcggtgc aatcgtcctc agcgtgatag ccacatagcc  9960

agaccccgaa tcactccaga ccaaatccca aacaccgtcg acatcggtct tctcggcgta 10020

aaagttcgca ccagccgtat tgatcagaac atagttgccg tagacactga acacgctcgc 10080

cgtgtcggac tccaccttct gtgaggtctt aggcttgaag acgacgtcac ctgcggctga 10140

gccgccagac gggagcatca ggacgtcgga agtgaacgat gcggcctcct ttttcttcgg 10200

gtgtgcgatc cacgtgttgg gagaagcaga cgcaactgta acttttgatt gccattagag 10260

tggtcgatgg gagtcgacaa tagtcctgtt aaagagacga agaacttaca gtagatcttc 10320

tctgttactt ttgcagtgga gagtttggga tcgccgactt gagctttgcc tgggagacag 10380

tgctgtcagt atggatccct acactgggcc actcagatag aacgcggaaa ggaagacaga 10440


                              11820
```

```
taccgtcagc atagaagacc ggcaacccac tgatcccatc accgtaagcg tagagactga 10500

aggcgtccga cgtgttgggg tcctgaccgt cgtcgatggg gtatgcggaa gccccggcca 10560

caaagaggca gacgactgca aaaatagag cacgggagaa cattctgagc atagccttgt 10620

ctcttatttt tggggcgaaa acaacgagag tacacgacga gtgtccacaa tgagtgttcg 10680

agatggaaag tttatggagt tgcaaaggag aggctcacag gcggccgtac tgaagatttg 10740

gactacgatg cgtatatgag cattgccaca gacctaattt tgacccaggc gcccggcctg 10800

ttcagagtcc aggcagcagg aatggaggag agtcggttac gaatcatcct gattcaatgc 10860

caggtctaag aactgccaat caccttgtcc agctgagaca tgccagggca ttttcatcgt 10920

cttgcccata cctcactctg cgcctacgca gggtcgaaag tacattgtcc agtcttgtct 10980

aagtgccctt ttccacagtt ttctggcctt acaacacggg acaagctagt tgcttttttt 11040

gctcattcta agacgtgacc aatgaccgct tgcgtccagc aatgccgtcg atgagcccac 11100

gcgaagttct aaatagcaac aatctgcaag ccaaaccaaa cccagtaggc gctggaagtc 11160

atcgcgagct ggcctgtgcc ctatgcgcct atggacccag caagtgagac acgcatcgca 11220

cggcaggagc agactaaaag taggggcagt cccaacagca atagccttag gtaattgcca 11280

atagatttga acttatacac accaaatcta cttggatcag ttcgctaaac cattttcagc 11340

cccacggcca gatggacgaa ggatcagcga accctatctt gattggatct cgtataccta 11400

atctggcgct gcagctagct ccaccttatc gacaacccat gtccgccatg caatgtcatg 11460

tcatgccatg tagccggtcc gatgaccgac ggtattggca tgggccagca gggctagggc 11520

tgattccggc agccgggtga tactgtaatg cttctatatc ggtctcccgg gcgagccggg 11580

ctgtgaactg ctctctctgt gattggtcga tacggcccta gacagataga gaattaaatg 11640

tcctaggcag gaacagggtg agggatcagt gatgctggta gatgctatgc aaggcagacc 11700

atgctgcgtt cgaataatgg ggtaccatga tgatcgtgtg gtatgtcctg tcttactcta 11760

gaccagatgc tggacgctgg acatgtagca gtcccgtccg ggcgcgtttg tttctgaaaa 11820

tggaatatct tgtcgaggta atatcttgct ctagcgagag acatgttcag ccagaaataa 11880

gggctttcgg ctttcatcgg ctggaggcga ggtataacgg tggcgcgctg accgtcaga 11940

cgtactggaa tgtctacaat ctggtttctt ctttctatgg gttgattgta tcgtcttaat 12000

gagacagctg tcgtgtccaa tcgctacacg atgctgcgtt cttcctttct tctcttcttt 12060


                              11821
```

<210>   5773
<211>   7614
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations
<400>   5773

gttcaaggat tgagcttaga ttccagtgtt gtacttgtgc tctgtgggtt cctatatata   60

ttttgaccgt gctcgaatag aaaagctagg ctcttaaaat ccagcatacg cgatataccc   120

tgttgtctct tctagatgcc atttcataat taagttatta caatcaagtg attatgatta   180

agtgatgctc ggtttgctga gtctcttaaa ctagacacac ttttgctatg cgattgaata   240

gaggagatgc tataagccac tgcactcatt tatcagtact aatatgttga cctcgagtag   300

acctgcgaac atagaactaa tgtcctcatt cagctaagtt tttgtattaa ctagaagcat   360

aacaaggttt tgtacgcacc atgggtactc cggctcactc tagatcgtac tgggaaagta   420

tggcgttacg gacatagttg ctcatacagt ggttttgagc tggatagtga aggttggcag   480

taccctcaca aagccatttc tacaacgaac gatactccag cattattctt gcattcgtac   540

tggcatccgt ccatgttggc tagatacttg aagtcgtagg tgaacattct gaaagcttat   600

ggtgagaact gacaaggagg gatctaagta agttgttctc gcctcaccaa actggcaact   660

gactcgctgg ctgtgcgagc tgatcaggaa tgtgccaaac aaatacagca acatcgtcag   720

cataatgcta ctctctagcc acgcgcttga gcataccctg ttcgtatagc actagccaag   780

gctttgggaa gggaagattt atggtgtcaa taccgccttt cttcgagtct ttgacatagg   840

gtcgtggctg accagattgt aagatactgc tataatccgg tatctgaccc cattcagctg   900

gtcagaactt aaggcttcgc atgatttgca actgggatga gcgagaacag ccataaacca   960

ctcaaacagg acgactcagg agatcaggag cttgggatgt cctctatgcc cgctggcatc 1020

ttgtaaggct tccgcgccgg atgacgagcc atctgaacgc gaagtagtcg gcgtcaccct 1080

catggcatct agttctcttt gactacccgc gcaatgacac tcaaccgact cctgaagtct 1140

tgcttcccac ctacgagcaa ttcaggtcaa gggctatgca gtcttattgt cgggcagggg 1200

aagagaaaag cgacgcagtt ctgaagacag accgtgcatg tgaatcagag tagtttgatc 1260

taaccttatc atcacccaga ctcaattcag tctaagcaat atggtaccca gcagagccga 1320

cttcaatgta agtatcgaga gccaattctc cagctcctcc agctcctcca gctcctcagc 1380

ttcttctgag attgcttgat catgagggcc cattttaacg tcctaaacag gatagccgca 1440

caacgccctt gatcgggtaa tatagtagct gatatggctc tgatgttgta aaggggaggc 1500

cgcggctaaa gtatactaga agaacgtgga gatagcgacc gtccttttcc ccagtgctgg 1560

gaatatatca agactgaact gaagcctgag gcagctggca aacgaaagtt tctcgctggg 1620

tgattggcta ccgcgattac aaaagtggta catagcgtaa tgggtcttgc atatgaaccg 1680

aacaacatcg gactacttgt accaaaaacc aggagggact actcccaatg ccgacggcaa 1740

gatcgaccga gcgtcagtga tcaagaatgt aacccaccac tgccgaccga attagcgtga 1800

cggtgcaaag gaccaatctc gtgtgccttt gtcactaatg gcaagtggga ggcatggcca 1860

cgtgaaagac ctacgacggc gccgtatttg cactgagctt aacaatctcg tttcagtgta 1920

ggtcgaatgg ctctcgacaa accttcctga atcttcttcg gcggcagctt ggagttgccc 1980

cgggatggtg ggtgggcgcg gggtgggatg tcgcgattcg ggtcgagagc aatggaaatc 2040

aaccgaatcg ccatcacagg ctcagaaggt gcaagcgcag agagagaccg aaatcgacca 2100

atttaaccgc ctgtacagaa gacccgggat aactccgagc gagagaccga aggattgatt 2160

ggacgccgag caggacacaa ttatccgtgc gggatattgg tggagaattt ccccatcggg 2220

aaggatattt gtttccccgc ggagtggtgt ctaccgattg acatcatagg aagaccggaa 2280

agtacctaga tagactgttg agggtcagta gaggttcatt gaagggtgca agagaataat 2340

actgacagag acgctgaatg ttgggaagga taattgagat tgtaacggga tggttgaggg 2400

gtaaagtgct gttacctatg atgccatcag gtgagccccg ccgaggggta cggcagcggt 2460

tggcggggaa gatcgagacg caacgaggat tcgacctgga tcgaggactg tccggcgtcc 2520

acggtggcat cgatggcttc caaggtaatg ttaaccccac cggaactgcg cagccttta 2580

ttattcccct tctctccctc ccaatttctc tcctacatct ctctgcatta ttgattcctc 2640

tcattccctc cagtcatcca tccaccataa tccattcaca aacacaatgt ctctcggcaa 2700

gaaggttacg cttaacaccg gtgcccagat cccgtacgta tcctcgaatc ctcgatatgg 2760

cggtttttggt aatggctaac atgacacagt cagctgggat tcggtacctg gcagtccgcc 2820

cccggccagg tcggcgaagc ggtctaccag gccctcaagg tcggctaccg ccaccttgac 2880

ctggctacta tctaccagaa ccagcgcgag gtcgccgagg gcatcaagcg cgcctacaag 2940

11823

gacatccctg gcctcaagcg tgaggatatt ttcatcgtac gtcaatttttt gtacccagag 3000

cagctcgttg ggccattaga ctaacagttc gcttgcagac atccaagctc tggaacaccc 3060

agcacgaccc cgccgttgtt gagaaggctc tggacgactg ccttgcggag ctcgagctcg 3120

actacctcga cttgtacctc gtccactggc ccgtcgcctt caagaccggt gacaactact 3180

tccccttgga cgagagcagt gaccaccccg acggtgacgt cctgatcgat gacagcatct 3240

ctattgttga cacctggaag gccatgacca agctccccaa ggagaaagcc cgcgccattg 3300

gtgtctccaa ccacactgtc gagcacctcg aggcgatcat caacgccacc ggtgtcgtcc 3360

ctgccgccaa ccagatcgag cgtcaccccg ttctccagag caacgacctg atcgagtacg 3420

ccgctaagaa gaacatccac atcactgctt actcagtacg tccctgaagc gttgtacgcc 3480

gcttgcagcc taaactaatg aaaaaactag gccttcggta acaacatgtt caacatccct 3540

ctcctcgtcg cccaccccga agtcaaggcc gtcgccgaag aggcctccaa gcgcctcggc 3600

aagaccgtca cccccgccca ggtcatcctc aactggtccc aggagggagg ccactcggtc 3660

attcccaagt ccgtcactgc ctcgcgcatt gccgagaact tccaagaggt cgagctcacc 3720

aaggaggagc tcgccaaggt ctccaagctt ggcgaggagc ccgccgcta caacacacct 3780

tacgtggcta caagcctcg ctggaacatt aacatcttcg gcgaggagga cgagaagcct 3840

gccaagcaca aggttatcgt ttagatggat tatggatggt gctggtcact tatgagatgt 3900

atatatgatg aatataaaat atagatgact ccaactttac ccgttttcca agacgtagtg 3960

ttatgaaata tatatatata atatttgtat ataataggg tctaactaaa tggtacaaat 4020

aatcttcccc ttagtttggt tactctccat caacttatgc gcctcaacca catcatcaaa 4080

cttaaacacc ttctcaacaa acaccttgaa ttctttattc cgcaacttct ccagcgcatt 4140

gtcaacaagc atatttctca acttcctttg atactcttcg tcccgactcc tcaacgtact 4200

tccctcatag cggattctct tcctcaagaa gtacgagata tccacattct caaccttgat 4260

tccacccaag aacgcaaggt tcacaatccg gccatccagt gccgcgctct ttaggttatc 4320

ctggaaatag cccgcaccaa tgtagtcgac aatgacatcg acaccgcggc catttgtggc 4380

tttagaaagt tcctcggccc agttttgagt ccggtagttg aagcccgctg tcgcgccgag 4440

ctggttcaca cagaaggaga tcttttcgtc ggagcccgct gtgacgtaga ttgcggatgc 4500

accggcggct ttggcgagct ggattccagc tattgagacg gaggaggcgc ctgcgtgcca 4560

```
gaggaccgag ttccgggttt gaaggcgcca acgaggtgca gagcttgcgt tgccgtaatc 4620

catgtcttaa cacattgtca gtacctaatt cacggtgcga aaagtcctag acagcgtagg 4680

cgcgcagatt gataagtacc tcaggaatac ccgcagcctc ctcccatgac agctctttcg 4740

gcttatgaat aagcatcccc gtcgcaacgg caatatactc tgcgtaggca ccaccatacg 4800

ccaagccaaa gacctcatca ccaaccttga aatcttccgt tgcgccgtca ccgacgtccg 4860

cgattgtccc ggagaattcg acgcccaggg ttgcgggggc ttgaggggga accgggtact 4920

ggccttcgcg ctggagaaga tccatgcggt tcagaccgaa tgctttgact ttgacaaggg 4980

cctgcgaggg accatactcg gaacgggga tgttgtcgat gtagagagcg tcggcgggac 5040

ctttgccgcc ctttatggct gaaggagcgg ggcgtaagtc tggtgatagc ggaggtggga 5100

agggaggggg acgtaccaac tgcccgcatg gttttctgag agggcataat ccttggagat 5160

gtcaattgtg tcgagatatt gtcaagcagt ccaatttggt gaccgagaag agtaggaaga 5220

cgctgcgtta aagaataacg cccgcgctat gatgtcgttg accgataagg tgattgataa 5280

gcaggcgggg tcaatttccc gttctcggag tctggcggat acgttagcct gccgactgcc 5340

gagcaatgta cagactccta taccagctcg acaccacctc aattgcatgc taaacgctca 5400

agatgtcctg atccaatgcc aaaaggcata taccattctt aattaaatac agcacggcag 5460

acccgacctg accgaacacc cgtcgaggtt ttttttttt ttcttcacat acttgctgat 5520

ctttatcgag aagctacaag gtcttacaga acaaccgcgg ttctcagcgt agcgaagaat 5580

cttagccggc ggcctcggct gctcgagcac ctagattacg tggattgcct tcaattcctt 5640

catcgtcaaa ccaaccgctt cccgcgcgtt gtcgcatcct cagaaggcac gagtttaggg 5700

gctatcatat cttgaaggag tgcaagaagc aaaaggtttg gcccaaaagc cgtcgctagg 5760

cgattgggca agcttgttga accgtgattg atgatatccc caagacaaac taacggctct 5820

ttgggtactc gcttggactt tattccagaa aacaccaacc aagcgtgaga tgcaagtaaa 5880

agaagatcag gggtagggca cccatgtgcg aaccaggctc actggaaaaa acatgcattt 5940

tttttcagag caaatacgcc tgattaaaga aacgaaggtg gaaggatgtt ggtagtcgac 6000

acatcgttcc ctatatcaaa cgggacattt ggccacagca cactgactct acactggcag 6060

gcaatgtcgt cttgtcgtcc catttactgg taagtaggag gcagacgaag ggtgagtaaa 6120

acacaaaatg ttggggtttg ggcatacgta ctgaatctgg caacggcgaa gctagtgtgg 6180
```

11825

```
caagtgacca gcgggcacat gcaatgtatt gaatgaaaag aagtatctga tctgggaagg 6240

tggtgcactt gagccagcct tcagactctg tagagtagac tttgtcctga atttgtcctg 6300

aaagtagaac gcgccccaca ctagcaagga tgaccctgtc agcctgagga gtaagcttaa 6360

cgacaattat gcatattaat ggttattata ggaaccgtaa tatcgagctc aattctgcta 6420

caactaaaag atctttcaat ggttcttcac tctctcaata tacctacctc gcttccacat 6480

atacaaacga cgtccccaga atcgagactt gtggaaggga cggacaattg tcattactgg 6540

atggccaacg tggccgccta tctatacaca gcttactaaa taatgactaa gcgagctcga 6600

tccctaagtt aggggcaggc gatgccatag gtttggtttg gtttgtttcg tttcgtttcg 6660

tttcgtttta ttatttaacg tcactcggcg gatcacgggg cccacgtgat ctgcggcctc 6720

ccagggggca tctggacgtg ctactaaaca gaactgccta ggaactagct agatacaggt 6780

ttaaagcagc aactatggac aatatatatt agaaataagt agaagaagca cctggtacta 6840

ccctggccag gtctttgagg gcagatgcct gttttgacta cctatagatt gggggagggg 6900

gccggaccct ttatccaggt agatgtgtgg actatcatac tatcaagcac tctggcaggc 6960

ccagttcagg catatatcct tgaagaagga taattcttgt ataatatagc tgaattcttt 7020

agccctggca gctatactta agagctagtc tattatttt aacaggctgt ctcttatata 7080

tctctatcta tctttccagt actttctagt atataggcag aagaagaagt atactggggt 7140

cttggtccta ccacaagagc agctttccag gtagtctaag tagttaaagc actggtagta 7200

taccataaag tctctgtagc ctgtacaggc agtaacaagt cagccaagta cctaacaggg 7260

aagcttgtac tcacgggtgt ggctttcctt tgtataggt ctaatatcca gggtcttgta 7320

ggcttgtagt gccttactag catatactgt atatatctct atacaaagct actattttat 7380

ctcctgttgt aggtatgcag gagataggg gatattaggg ctatatatag aggacccaag 7440

ctttgcaagc ttgtctacca gcttgttcct agtaatccca gaatagcctg ggatccagca 7500

gacttgaagg ggtnnnnnta gcatagttcc cnttccgaga gcttccaact actaggtagt 7560

aagctgaata aaggactctg atagtctatc cctatacaga gtaggcctat ggct     7614
```

```
<210>     5774
<211>     8650
<212>     DNA
<213>     Aspergillus nidulans
```

11826

<400> 5774

```
ggcgcttgtt cctgcaagca gataatatag aacatggaag ctacgttcgc ccgtgggaac   60

cgaagcaatc cgactacgct caagtctgtg gtcgatgatc tttccaccta ttagagtcgg  120

gttaacggag gaggacgcat catattgcag ttccagggaa caatccagct tttgacgcgg  180

taggtgtcgt caatgacttg gttgtggtga gggtgtcgaa aatgaaagcg gcataggaca  240

gttttgatga cagcggagtg gacgaaaagg agaggaatga tgagagaagg tgagaccgaa  300

gagtcgtttt accggcgcca ctctcgcctc tggatatatt cagtaaatgc tgcttgaatc  360

agagacaacg ccggggaaac ttacaggaaa acaatcgctt ggttctctcc tcgagcaccg  420

agccgagtat aagccctccg agcgaggtcc tcggtctcgc ccatagcact accttctttc  480

ccgccatcag gacctttcga agatgaggtg tagttgttta agctgattag tgcgtgggag  540

gaaagccgcg cggtgggtag gccgacatgg aagctggtag acagtcaaat cagctagttt  600

ctacctagaa taatagaaag accacgtacc gactggctaa atgtgcggta agatgggtat  660

cggattgtag atgggctggt aatgagggga gtgacgattg cacatgcgac ggggtgtgcc  720

ccgctggcaa agtcccaacc atggccccga aacctcaatc tgaggagatc gtgtgggaat  780

ggggtataca ggccgcgcta ccgcagcaaa ggtgtccctg accgatctga acgagcaagc  840

tttgtgccga agactttgat cgagtaaggg ttgaatcagc gacaaaaaaa ggtagacatc  900

tcctgcatac gaagcagata tggtcaaagc aggtaacaca gagatcgctg gcgattcgag  960

gatatcgagc agatactaaa accgagtggt ttccgagatt cgcggcgtta gagtgcagtc 1020

cgagcgatcg tgagatgaga aatcagtgcg gcagttgaac gaaagacgat cataagatta 1080

gaactatgaa ggcgatagcg atgtcaggac gttcaataat gcaagcaatg agaacgaccg 1140

gacaccaaaa aatcgaagct ggagaacgag cgaggaaaag acgccagacg acagcaacag 1200

aaacagagcc gaacaacagt cgacggcgtt tctctgggat cagctgtgat aaagggaatt 1260

cgatagcgga gaagcccgta acttgctaat acaagcggta tttttcaaca tggaacatca 1320

ggcccagtcc ccagtcgacg accactttat gctgggccgc tggaccgact acgttttcat 1380

tctatattga ttcagcctat ccactagttc taataaacga agtgtccatt cattaatctc 1440

gatctacatg accaaggtct gctttatttg agtagactat tgaatgttga tgtcaacata 1500

tgagcccttc gtccctgacc tgggaaatcc ctggttatgg tccggccgga agaaccaaag 1560
```

accccttggac ggcctgcagc acgcgtacca agtgttctta aaatagtcat actgtcatac 1620

tgtcatagaa accagaaacc agaatcccaa gcgagaggaa aaattgaaaa ttgaaattca 1680

gtctcagata tgatacggga ctagaccaga tcgaagaatg tgagacagca gaccggtcca 1740

atcggtcatt caatattagc gtcaatcatt caacgccacg caggttgaag aacaggaaaa 1800

ggggctcgcc tgccttttcc cctatttctt tctggttgga cgtgaaaaaa aagaaagaa 1860

ttaaagaaat cagggccgat tcaaaacccg taatcgattt tcgatgacaa gttaaagatt 1920

ctgggtttaa attgtcatga tcagcatcaa ccccagtttt attggcagga ttgccagtag 1980

aaacacagcg ctctgggttg gaggagagtc gagggaaacg acaagctcag caagaaagtg 2040

ggtgccgatg atcagacaat ggaagagcat atgatagaga tggctggatt gaaaaatacg 2100

gctagccgta gttcaaatat accatggctg ctaggctagg ctagaacctt ctcgctgtcc 2160

gggtataaat aacaacaagg cgcccacacg gccacccaac aaatccagct ggcgaggaac 2220

tgtcatatgc tcctgctcag gccgtcgaag atctggcatc tggcattcct gcgggccagc 2280

agcagagtat cagccgtggc gatctaacag gcttgattcg cgatgggtga gacaaggcca 2340

gaaactctgg agaagtccgt gagacatttg ctgttatttt agggtcctga gccccgcagc 2400

tctctccata ccctgacctg ttactattta ctaatccagt aaagcggcgg ttggtcgcta 2460

aactccgtac tgtaactata caagcttgaa aaacatggtc ttttgctatg ggagtccaat 2520

ataaatcagg atgaagaagt gcaaggctcg tttaaataat tatcgttcat ctgggcgtcc 2580

tgatcccttc aaccctgaaa agggtcggct tgattattca ttatgggact agaaataggc 2640

cactcgggtg cctttcagta gtcgatcttt tgggacgctg gactctttag ttcgaaggta 2700

gtggtgatct atctgtaatt ctggtaattt tgaatacgca gacggagtcg cccaaaacaa 2760

cctgaagcag agcgattcac tccgctgcat gacaaccgat ctctcttttc tcacggcttc 2820

cgtctcgcct ctttgttttg tcctcctgct cgatagtttg cttcttgctt tcgcttgaat 2880

ttcttgttct gttcctcgta catctttgct tcaggttcaa catattggcc tagttaatac 2940

taatctgtgt ttacggactt gcttcacgac cttcgttccc caacattcgc ttgtaaagcc 3000

gcgaaacaga cgaccacttg ccccgatcgc attccgtcgt tcagaacatc gaaatcgctt 3060

tcttgttgaa cctatcatct catcgaatcg ccgttcaaac tactacgctc aaccaagtga 3120

cacggtaacg tcttaaaagc atctgacgct ctgcaatcac cccattccat gcattaactc 3180

```
ccgtccgata ccacgctcgc tttcctgggc atctccctgg gctactcctg tcgaccaaac 3240

cgatcctgat ttgagtcgga tataatgtcg aatcgattct ctgtgtactc cacccagtct 3300

gcaggactgc ccggtggccg tccgtcgaac cagctctcaa ccacaacatt actgaatgcc 3360

cttcacgcac attacacctc tggcctaccg tatcaactag acgctgggac aagtgtagtt 3420

gtcaacaact ggcttaccgc cgctcagacc ggcgcggatg gtcataatgg aggcacattt 3480

gaccgcgaat tggcggcaag ggcatgggaa catgctcgac gaagggcgga ggatggttgt 3540

attgttctga ggtttgtttc agacaagtgc ttttaaacgt agcgctgacc gcttgtagct 3600

ctactcacca gtcaactccc tccatatttg aacccttctt gacgacgctt cctctctcca 3660

ctcccagcgt tactttcacg gctctctctg cactgaaacc gttcctacgg gccgtaactg 3720

ccttcaaccc ttcttactca ctatactctg ctctctccgc caacttcacc ttcaccctca 3780

aaggtgactt ggttgcgctt acgttggctc tgtcgacttc gggccttaat gtccaaaaag 3840

gcttgctgga catacccacg gaacctgggt atcgtgcgtt tgatgtcttt tactacctat 3900

tgacaacaac ctcgacccaa gcggaacggg agttcttggc tttaagggaa ccctcggcgt 3960

atgccatgtt aaacaagtct gggacatacg atccaccttc atatattccc accgccgatg 4020

atgctgccgc tgcggaggac tttagggctg ctctgaaagc cattggtatc aaaggagcat 4080

ctctgcgaaa tcttctctca gttcttgccg gccttctgaa gcttggaaac gcggctggat 4140

tcctcgtaga cgaggaggag cttgaacaaa catgcgagga tgttggagat ttgcttggtg 4200

tagaccctga gattcttctt cacaaatgtg ctaccgacga gcgcgagctt ctcattactg 4260

gaatctacga ggccttggtc gattgggtga tcagcaaagc taacgaggcc attgctggcg 4320

agcttgaaga gttgaatgcc aatggatcag gcgaacactg gaacgatgac gacacggtca 4380

gcatttcagt cgttgatatt cctcgtcctg ccttcggaaa agccgtagct ttgcgaaacg 4440

tctttgacga tagcctcggt atcaatgcag agatgaaaga ggacggcatt ccagcacccc 4500

ctgtcgggca agccattttg aacgaaatgg cagctgcagt ggagcagttt gggcctgacc 4560

ttgggattag cacagaccct actaaggaat acgaactcga caaaaggcaa ggtgttttgg 4620

agaaagtggg cattgatctc gatgcagatt catttctgcg gcagatcttg attccggtcg 4680

agagtcaagg cattgctgtt gggaagaaag ccggttcga tcttgccagc actctcggta 4740

gcagcagagt ttggcaccat atatccgtcc accccagcga tgacctgccc ggagcactga 4800
```

11829

```
atacttctgc gccgacagct gcgtggacag caagcgctgt atctcgccaa attcgcgagt 4860

ggcgacttgt tgaatgggcc aatcgccgcc tcaaacagtt cgatttcacg gccgacttcg 4920

acgtggacga gtttgttaac cgttattctc gactgggctg cgccgatggc agggacggcg 4980

tggagagttg gttgatggaa agaggctgga cgaacggcga tgcttttgtc ggacatcagc 5040

ggatatggat gagagaaaat gcttggtggg aagcggaaac aatgatcgat cttaaagcgg 5100

atgaaccgcc gtcgacgcat tcctacttca gtaatagcat gctcgacccc cactccgggg 5160

gcactcccat ggccgaatct gccagtctac ttggaggcag tcagagcaat ctcctacaca 5220

gacagagtgc tatggcccccc agcgtcatgg ccaagtctat agcacccagt gtgcctccta 5280

ccatgaacat ggccggtgat tatggtctgg gtagcaaagg tgatgataaa aagtgggaca 5340

atatatatta cgatggcgat gctgaagggg gagatcggaa acatctcgag aaggacgaga 5400

tcacccttgg acgccgtgtt tggactgcct tcgtttgggc gctaacattc tggattccgt 5460

cattcgtcct acgctatgtt ggacgaatga aacgccccga tgtccgaatt gcctggcgag 5520

aaaaggttgt cttggttctt ctaatcctgc tcttcaatgg cattgtttgc ttctacatca 5580

tcgccttcgg cgacctcctt tgcccaggca aagacaaagt ctggaatgaa aaggaagtca 5640

gctggcgctc gacaagcagt aatttctatg tcagcatcca tggctatgtc tacgatatca 5700

ccaaatttgc caaggtcact catggcgaca catcaccaga agcgacgcct tcgctgatgg 5760

aaccattggc cggcaaggta ttggacgcct attttccgcc tccgttgacc cggatgtgcg 5820

ggaactatgt caatgatctc gcaatcaacc tgcaaaacaa cgacacctcc gccacagagg 5880

atcagccgct ggccgtacat aaatctggac cacgcaatcg accagatacg actaccaagc 5940

tgcacaatat cacttggtac gaacaggact tcctgccgaa gattaatgag tactacaagg 6000

gcaagcttgt ctggtccaag gatactgtta agaaacaagc cgaaagtagc agtgaacgaa 6060

aatgggtcat tgctcacaac aaaatctacg atcttacgga ttacttctat acgctagaca 6120

tgatgaattc ggaaagttca tatgattggc ttccttctgc aatcactgat ttggtcaaga 6180

acaaccctgg ccaggatgtc tcggataaat ggccgttgat gtcgtctcct ttccgcgaag 6240

cccagtcctg tcttgattac gtgttctaca agggcgatac agatttccgt gatggtccgc 6300

ggtgcacggt caacaactgg attctactcg cattcacgat cttgatttgc gcagttgttc 6360

ttgtcaagtt ccttgccgct ctccagctag ggtcaaagcc agtccagcaa ctgcaagaca 6420
```

11830

```
gattcgtgat atacatggcg ccgacataca gtgaagccga agactcggta tgcaaaggtc 6480

tgaactcact cagtgcgctt cgatacgaca acaagataga actgatcttt gttatatgca 6540

atagtatgat tgatggtggt ggtaacgagc ggcggacgcc gaaaattgtc ctggacattc 6600

ttggagttga tcccaaaatc gaaccctcca gcgttgcctg tcaaatctat cggccaaggc 6660

aacgaacagc ttaattacgg taaagtgtac tctggactgt acgaatatga aggcaacgtg 6720

gtgccttatg tggtcgttgt caaggtcggc aaggagtcag agcagaacaa atccaagccc 6780

ggtaacaggg gtaaacgaga ctctcaggtt ctccttctca atttcctcag ccgcgttcac 6840

caccgtgccc cgatgtcccc tcttgagctg gaagttttcc accagatcaa caatgtcatt 6900

ggcgttgacc ctgagcttta tgagtactgc ctgatggtag acgcggatac aagtgtacgt 6960

gaggattccc tcaatcgcca agatagctgc gtgcgccaat gatgctcgca ttgctggtat 7020

ttgcggggaa cgtagtcttc aaaccgagga accaagttgg tgcacaatga tacaggttta 7080

tgaatacttc atctctcatc atttggccaa ggctttcaag tctttgtttg gcagcgttac 7140

ctgtcttccc ggatggtaag tctattatcc cactgttata cacacatcac taacgacaca 7200

gtttctgtat gtaccgtctt cgcacagcag accgcggtcg tcctttaatt atatcggaga 7260

agcttcttga ggagtattcg gataataatg tcgatacgct acacaagaag aacttgctgg 7320

cccttggtga agatcgatat ctcaccactc tcatgaccaa gcattttccc accatgtctt 7380

acaagttcat ccccgatgct ttcgctagca cggcggctcc tgagacatgg tcagtccttc 7440

tgtcgcagcg acgtcggtgg atcaactcta caatccacaa cctggttgag ttggcggcct 7500

tgaaagacct ttgcggattc tgttgtttca gtatgcgttt tgtggtaatg gttgaccttc 7560

tgggtacaat catccttcca gcgacctgcg tctaccttgg atatctgatc taccgcgttg 7620

cgagcgacac ggggcccttc ccaatgatct ccattgtcat gctggctggt atctacggtc 7680

ttcaggcgat tattttcata atcaaacgcc agtggcagca cattggatgg atgattatct 7740

atctctgtgc ataccccatc tacagtttca tccttccgtt gtattccttc tggaagcagg 7800

acgacttcag ttggggtaat actcgtgtag tcattgagga gaagggttcg aagcgcattg 7860

tcgcggtgga ggacgagcaa ttcgatcccc gcagtatccc ccttcagcgc tgggacgact 7920

atgccctagc caacaacctt cccgggcgcc gaggcgacta cgccgtcggc caagagaagg 7980

ctttctatgg cggacgctac atggatgaca cggcgatgga aatggatgac atgcattcgc 8040
```

11831

agtactcctc tgtcaagccc gcttcgacga ttctcactgg cttccacggt caaggtcgga 8100

attcgtacat gccgccgctt ttcccagctc cctttggcgg aaatgtccct ggtaaccgca 8160

actcgcactt ttccaccttt tcccggtaca ccgaccagcc tctccagagc aacagtcatc 8220

tgcagacccg ccatatgtca atgggcaacc tcagccagct ggagagcagc ggcatgacca 8280

accgccacag cgtcggaatg atgcaaagca cagataacct tcttcgacct aactcgcgca 8340

gcccggtagg gtttaactcg cggcctgcca gcgcgttcga tttccgggcg ggcatgaacg 8400

ggcccgacga gggtgcaatc acggaggcaa tccggagctg tctcgcagag gtcgacctcg 8460

acaccgttac caaaaagcag ggtaagtgtc tttcttctcc ctccctgtct cttcgcaagc 8520

aaactaacct gcaatagttc gcgctcttgt tgaacaacga cttcagacga cgcttgttgg 8580

cgacaaacga acgttcctcg accgtcagat tgataatgag ttggcgaata tgtgattttt 8640

acataacaat   8650

<210>   5775
<211>   7549
<212>   DNA
<213>   Aspergillus nidulans

<400>   5775

acactgacca acatggaagc tgagaaaagg tcatctcgtt aaggctattg tgccttccat   60

gactagacta ttgggaacag aaaacgcctt gcggctatct tcactcctcc atctcggtcc 120

taaactctac ccgctcagta tcagcctgta cctttttttc gctcaggtaa gacatgctca 180

tctgactccc aaacagtcct tcctcttaga agtcaggcgt ggcaccctgt ctaacctttc 240

cattgcctcc ttctcattcc gctgcccgct cgccagtgga ataatctcgg cgatcgagtg 300

acaaccatat catgtcgagt tgatcgtgtg ctttgatctt agctccgtca ctccagctca 360

ttccagttcc atgctctcta tgccgagttt gatcatttct tgcgcatggg gcttggggc 420

tcgtacacct aggctctccg tctagctctt cccttggac ccacccttca aggccttgcg 480

tcttgggaag tatcagagac aaggtatttt tgctatggtg aacgccttca tggtaaccac 540

tgtcgatgac gaagtcttgt actccaggaa gcagacaaca tcagagaagc gccgaaaaac 600

aatccgcatt tcaccggcac gagtcgcaaa agccagggcc aaggcggtcc aacaccggga 660

agtagtgtaa gaaatgatag atacaataca gctacacgcc gtcttggaac aggtacttgc 720

gaagaacaaa ctggtcaacg atgtggttgt aagttaggat gcatcttctt actaagcaaa 780

agccaaccta ttcgtctatc aagggatcaa acgaggggct gagcaatcaa cttcaatacc 840

acttcaatca ctagatcgct cacgatgcta tcttatccgg cggtatttac ttttcagtgt 900

atttgcacag gtttcattat ccataacagt gtcctgttgc cgggttctga gagaaattgt 960

atccaacgac tcgactgtat gcagtacgag ataccacaat catgagaaaa gagggggttca 1020

ttcatacagg acgtcaccgc ttgctgactt gcagcttcaa aatgaactca gagggaatta 1080

agcgaaaaaa gaaataaatg acaaaggaaa tcgacaaagg aaaagggaat ctagctgacg 1140

ctggggtatt gtgatgatgg ctttggcatt atctcatctc caggcgcctt ggcttagaga 1200

taacaggcct tggatgcaat ccaggtcctc ttcctgactc gctgcgttgc cgcccatgaa 1260

tgctgaaacg tcaccttcca gaccagacat ggacagggat tttgaaggtc cgactgtttt 1320

tcgatgcgag ggctgtgacc atcgcgagcg tcctgatgta gaagcgtcgt gtggtcggcc 1380

gtctcgtccg ttcgagtcct tgaggacagg ccggtgggta tggctggaaa ccgtccgtcg 1440

acgcgattgg gatactcgag ttccaggaat ccaattctcc ttgtctgagt cgccggcttc 1500

aagttcgagg tcatccttag cagatttaga gttcttgagt gtggaaggga atttctcgcc 1560

caaggctttg cggccagatt ccaaccgacc gagggaagag acagtacgag aaagcttctg 1620

cctcttctgt cgcattgctt gcgtgatagg ggtaccctgg gtatcggagt ttggtgtgag 1680

gagggagggg tgcctggcgg acaggcttcg ggtcagagaa cgcttgccac cggagagtag 1740

ggccgatttt ggtgtgcttt gtgaactgaa aggtgtggca agtgcacttc gcgcgtctgt 1800

atcgaagata gactcccagt tcctgggatc gcgcgaccta ccgaaggatt tctctctttc 1860

taggctacgc ggtgtaccca atacaacagc gctattgctt ctgcgaagac cagcgagtct 1920

aggggtgcga gtggggaaca tggagatgcg gtttttggac ggggatggtt cgccgttggc 1980

acggatgacg gcttgtccgt ctgccgacat tgaaattcga agcgagtttc gtcccttagg 2040

gggtgatggt gtcaattcgc cttgctttcg aaccatggct tctccgtcaa aggaaagcga 2100

tagcctcagg gacggtggtg actttaggct gtctagcatg cttggggttg ctgactcttt 2160

gtttgtttct ccaagatctg atccagatct ctttctcttg gcggagtttg ggtgaagcgc 2220

gttgctggac gcgtcgatag gactctgcat cgcgttcaac tcaaccagac tgctgtctgc 2280

cgcttgttga ctcgaatttg gggattcgga tatggcaacg ctcgtttgtg agctctcctc 2340

11833

```
cacctggccc ctctcatcct tgtccactgc atctgatgca aaggagtcgc cctcgggcat 2400

cgacggccgc gaaccgtgag cccgttcgtg gtcatggtcc tgctccagcc tgctggagcc 2460

ctctacaagt atactgtcgt cgcatttcgt tttcgagtcg tcggactggg aggagggcaa 2520

gagttcgtga ggctggagag gctttgactt tcggcggtca ttctggcgac ggttctgaaa 2580

ccagatctat ggagggctgc attagcgcgg gatatatcca actaggctaa gggagttata 2640

cctggacttc tttctcaccc agcgaaacgc ggctgactat gctggcccgt gatatcttgt 2700

ccggttttgg gtttcgttgg tactctgcct cgagaatcgc gtagtcttct gggctataga 2760

cgcgtttatc aggtcagaac ggcaaatgat cgaacgctag gttggtcatg agcagtaaag 2820

gcaaagcata cctagtccga cgccgtttct gccgtgcaag caatttgtta tccacacgcg 2880

gtgggaggtt ctgagtcaac gtcttctggg aatggaccag aaaggcgtag ctggaggagg 2940

ccgtagacga gtcggagttt tgagtagatg ggggagagga cgataaaatc acggcagagg 3000

gctcggggtc agacatagtg ggtggtggtt atgtagagtc gacacggaac ggcagcataa 3060

ggacgaagca gcagagagga caattagagc taaaagaag agaatgcgag aaaaaacact 3120

ggcaccattg cgtggaagag caagaggagc agggaaagga gaagtgtgca ccgctgaagt 3180

gggaatgttc ccgacctaga gctcgtgcag aaaagacgct tcactgatcg cgtcgcgatg 3240

tggacgccgt ggacgagacg cggcgtgcag cctgagtctt tcggggccgc ccgagtctcc 3300

actctggtca acttcactct tccaactcga taatcttcca cgcacaacgc gaaatagatc 3360

ttcgagtttt gcttcaattg attgaacgga tgaagattag ctgtatcatg gtacctgcac 3420

acattcgcga tgctgatcgt ggtgctgtag aaccccaata tgcgtgacca cgtgccgatc 3480

cataccagac ccgctcagca tcacgacaag acaagatatg ccaatgctca aatccgaggt 3540

aatcacttcc tcagcctagt tttcagcctg ctggaatcta tacagtcgcc ttgtttgcaa 3600

gggaatgtac tcagcctcga ggatccagaa ctgaaccagt ggaccaaacc gtgcttatcc 3660

cactgtcatc tgccccgcga tcccgtccca tggtccacaa ggtctataca ccgactaatc 3720

actactagga aggcaacgcg gcactttttt tatactgatt taggaactct atcaatcatc 3780

accgcatcta tccgggaatg accgcatagt ttgaggacta gctatcagag tgccgggtga 3840

aaattcagcc atcgatagtt cgaaggtgta agacaaaaac aagtcggcca tgaaatcaat 3900

ccgtatgggc taggatatca aaagccgcca ttgctgcttc aagcgcttga tatccttctg 3960
```

11834

```
cggcggataa ctgcatcgca gcaaactggt cattttctgc cagcagatgc tccctggact 4020

gctgatccag ccttccgatt atgtatatgg aatggtccgc gccattgtct cctctttctc 4080

cccagcagtg ttggcctaca gtctctcttt tatctttctc gtttgatccc catctttggc 4140

caaacacatc tcgtctcgta tattgtctcc agctaaacaa tttgaacaga gcgcgtccgc 4200

acactttcca tccgcacggc cctttcaaac agaattgcac cctccgtcct ggtctgtgtg 4260

agagccagtc ctcccgcgtt attcaccgtc gacgttccta ctacgtggcc ggtgtcagga 4320

gggactgtac tcgttagcga gggtatgcgt cccttcgctt tgcgggtttt aaagttgacg 4380

gcgcgcaaat gggcccacgg atgaaggggt aacaagtaag tgaagtagac tcaaaaagat 4440

accatactta caggctggct agccttttaa tattacatat tgtatctttg ctagtatcgg 4500

tagaacaagc gggaatatcc acctcgacga tgattcgagt cactactatt atgtataaat 4560

aaagtataat gagcattgtt cctaactccc gaagcacgag gacgttatgc tttatgctct 4620

tggccacttg tacttacaac tttaaagtct ggacggtaat ttgcagggat ctaccgaaca 4680

attcatcgga gaacgcgtaa aaacgcgaag tcacatgaca ttgtactgcg cttacgacta 4740

taattaccaa aggtatctcg atcacgaaat acaaagggct ctgcctgtat gagtccaatc 4800

atgcctcctg ttgattcata tggctaggaa tgttccatgg gcattatcca tatgtacaaa 4860

agctctttcc actgtcggta cgctctcaag catatattgt agactctcgc cgaggtcatg 4920

gctgtcgcgc agactgctat tatccggcag cacgatgtca acctcgacat tgagtaaatc 4980

acccgcgtag tacgctctta aattttggat tttgaggata gaccgcgaga accgcattgt 5040

catgtacaga aggatgctga cgtcctcgcg ggaggcggca gctccggtga ggtggcggat 5100

gtgctcgctg gcggtacgac tccagttcca gattatgtaa atggagagga tcagacctcc 5160

caggggatcg agaaaccaga tgttcgtgaa gccgcccact agagcattgc gttagcgtta 5220

ctgtactagg gaggatgttg gtagtacgca ccgagcggga agacgatgct gaagaaattg 5280

aaaactacat ccgtcattgc atcctgcgcc aaggcttgga cactcgagtt atttattagt 5340

cggcaccaga accagcacag gaacttgacg accacggtgc tacccataat cgccgccgat 5400

ggcactgata gctggatcac ggcgtgctcg gaggagatca agcggcccgc agacgtgata 5460

gccacctgaa agaacgaggt aaccatcaca acagcaaaaa ccaaaacact aagtggctcc 5520

aatcgacgtc gactaatagg gtattcgtaa cggtcttgtc ttcggataag agcggtagta 5580
```

```
atccagacga tagtagtcga tagaaaatcc aatgctccgt ccaccaagct cgcaagaact 5640

gatactgagt ttgtcatcaa caaagcagca atctttgcgg ccaggagaat gacgtttgcg 5700

acaaagttga cataaatggc gacagtgaca atgcgggctc cgctgtccac aaaatcatga 5760

cctttttggtg tgacatcttc caagggtgat gcttctccat ccgtagtttg aggtagtagc 5820

agcgagcttt cactaggaat ccgatagaga ttccgaggtg tgcgcttgat cttcttaggt 5880

atttcgtcat ctgccaggtt ctcgaaagat ccgtagcctc cttcatgcgc gcctgcgttt 5940

gttctcttcg cgctctctac agcacgattc tgctggtatt ccactatcag acgacggggc 6000

aacgacgagt cgaggagccg gtcaatatag acgtattgcg aaataaggtt attattccgc 6060

tcgtagagtt gacgcctggg aatattagaa cttttgttct gagatgggaa aggcttcata 6120

caatggtttc gacaatcctt tcaacgcgtt cgggtgttga tagtactgct gcctgattcc 6180

gttagcaagt cgccaacgtg agtatcaagc gaacttcact gccaacgcag aattaccaat 6240

tatatggcgg cctccgctcg ccgatcaatt ccctcgcccg cactgttgcg gggccctcaa 6300

cccggtgacg gaaagaacct gtgtcatcgc gctcggtgtc gatgtaccca tctggcctat 6360

agaggctttg gctgctcgag aacgatcgtc gtcgtattaa agatgaaagg tattggccgc 6420

gtgtggatag gatgtcgact tgaggttcga gactcggtcg cctgggccgg atcggcgatt 6480

cattatctga tggtgaggat ggaacagaaa attgcggccg tgttctgcgg ccagaagacg 6540

ccattctagg atcaatcagg caatactgcg atgacggctg attgttggcc ccgctgatat 6600

cggattgact gcgcttttct gccacagctc cccgccttcg gctgacgacc ccgcattgac 6660

atctggatag cttcatattt ctagtcatta tcttagctca gccaatacat ttggtactcc 6720

atgctcgaag cgaattcttt tttttacatc agtgctagtg ccgggtagga aattagggtg 6780

gcatcggtcg cctccgacag aaatgcggag agagaaagtg catcgaggac gagcacacga 6840

tgggattggc taatacattg aatattggca caaatgagaa gaagcaaggc ttgtattgca 6900

cggcggttac tttctgggtc cgctatcttc aacaataatg gatgcctttg cggtctcctt 6960

tacggggtaa cctaaatacc ctagggcttc tgcggacata gtaccaaccc tttcgcttaa 7020

ttcagcaatc gaggatatag aacattgggt tgagaagtcg atgagaccat gggtattcta 7080

gatctaccga tatatcgccc atgaattcgc ttcagcaact caacgctctc agcctaggaa 7140

tattgcacgt tccccagtcc atgaatgtaa tgttctccca ggatgttagg gcctgcatgg 7200
```

11836

cggtgcctcc cacatctgta tcaagtctaa ctgctcccag ttgtcatcca ttcaatgttg 7260

ctgggcttcc ttacgaaatg catcacgagt actcctctta tgaagtgcac ttagcccttt 7320

tgcttcaaac tcacttctcc aaattaaaaa agcagccatg ccttacggac cgtatttacc 7380

tttgttggct cacggcagta gacagtactt gcgtcaatat caaacccttg aacctcaaaa 7440

acgagtcacg attttccgcc ccccaaaaca gaatatcttg atcgctgtag tctgcaggcc 7500

tctcttagta ctcatgtatc atctcttcta tcaaatttcc ctgcccata   7549

<210>   5776
<211>   10918
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations
<400>   5776

cttagcagcc tcagtttcgt taccggcttc ttcgcgttgt tgcgctgggc gttgataacg   60

tccgtgatgg ccagctcaat ggcgaacttg gtgtttccgt aggggtttgt cgggccgagc   120

gggcagtgct cggggatggg gatcatgtcg ggaaagcgag tggcatcgcc gtaaacggtg   180

gcggaggagg agaagacaat gttcgtgacg ttgtggcgga ccattgagcg caagaggcag   240

attgtgccgt aaacattgac gtggtagtag tcgagggggct tctcgccgga ttcaccgacg   300

gccttgagag ggtacaacta agcattggca ccaaatagca ttgcatatag acgcagcgac   360

gtaccttcaa cgccgcaaag tggataacac tgtcgatgtc agggtgagct tcgaacacct   420

tgtcgaaggc tgcttcgtca gtgacatcga gctgtgcgaa ctcggccttc ttgcccgaga   480

tcaactcgat gcggttaagg gcctcggcgg aggaattgta caggttatcg gcgaccacaa   540

ccttgtaccc ggcctcgagc agggcgaggg tagtgaagga gccaatgtag ccggttccac   600

tatggaaggg tcaataatta ttggtgttgc tttaaaatat gcaacgtacc cggtgacaag   660

gacagatcca gaaggcatgg tgaatgtgaa ttgaatgcag gaacgaagga ccagagagat   720

agtactagca atcgaacaaa gacggcgaga atggggggatg gcgggagatt taaggggagc   780

gaggcggcga tggcgagcta cggagtacag atgcaggagg atagtggggg gggtgtagcg   840

gccaggctag cctcgtggag gggcagacca cctatcgatt tatccgtcat tgcagccatt   900

ctgaactcta caagaacacc accctgggcc aatttcatca atattggatc ttgattctct   960

11837

```
cttgtaccac taaaaatacc acacctgagt cacattctct tcgtttcgag gtctcgatcc  1020

tctcaaacga taattgctcg gagttctcga tcaggtaccg tacgaccgcc atacctccga  1080

tcagggactc agggcgacta tactgatcgg caccgcaaat agagacgcgt acgtaagttc  1140

tcctctacgt gcgcgacgat ccaatatcgg gttgatccaa cccttatttc tgggacattt  1200

tttttcatt tctcttttc aaaagggatg ccgtgacgga acgcttttac ccggactgaa  1260

cagcgcccgt gtatggtggt ggtcgactac gtatgcagcc atgtctcagg gccgtttaa  1320

gcccgaattg atatggcgag atccatccat ggctccatag cgtcccgagt ccgtctgcc  1380

cggctgtgaa atggggctta ccgcttggct ggtgaatcga acaaatgata atggtaataa  1440

taatactcaa aaattataca tccattattt cttggcacac atcgatagta cagcgacata  1500

aatcaacccg cagaaatgtt tattatctgc ttctattcct tttggtgaat aaaaaatcta  1560

cccgctacct cgctttccaa agagtatcgt tcttcttctt gcgggcctaa agtaacaaaa  1620

gttaggacgt tttcgggaaa ttacaagggg aagttggaag agacatacca taggagccaa  1680

catcgaaaca ccaattgcca gcgcaacaat tgtcaaaagc aactgcagtt cgaaaatcc  1740

cttgcccagg atatcaaaag cctgagacgg ggtcgccctc gtcgcgaaaa tatcgtttcc  1800

gaaaccaaat atcagacttg tactctcaag gagcgtgggt gcggacagaa cggtgttgat  1860

gcctgccacc tgacgcgcgt gagagaggta ccaccgccca tcgaaatcaa gaaagggcgc  1920

atatttcatc aggccctctt cggcttccgt aggagtaggg tctcggccga ctggacggcg  1980

ggggtcgtgg actggacgtg ggatgccgat tatagcgttc gacgcaggaa gtgtggcgag  2040

gagctggcgc gttgtgatgc cctggcgggt ctgggtgacg gccatgtaag agattggctc  2100

tgcgatgatg aaggactggg agatgacgtg aggttggggc aggtcggcaa tggaggagta  2160

gttggacgcg gatcctagag ggccacggtc gtttggtatg ggcgattcat acatttccga  2220

aatgacaagc tggtaaccct tgggctcaga gggatcggtg ccctcggcgt agaaggagta  2280

tgcgaaccag ttctctgaca tggcagatgc gatgggctgc gcagtgtcca ctcctttgtg  2340

cgtgctggta tggagaatgc ggccggtgac cccgtcgagc aggtagaatg tggccgaatc  2400

ttcgcccgcc gcagtgacga gagctgcgtt cggggttaga tacttgtaca gaacggatcg  2460

gttgcccagg accttgccga tggaagcaac tgggtcgtga ggtgggcggg cagtggcgcg  2520

gatgatcttc tcgcctggcg cgggctggaa cgtccagact gggatgcgag agtctttcga  2580
```

11838

```
gctccatccg agtattttcc catcttcttg cgtcacggtg tacacgtctg gagatgtgtt    2640

ggcttcagat gagggcttat ctgtggcagc ggaggtgtga gtgatatgcc cagtagtaac    2700

gtttagggta acagagctgc cgtcagcagc ttgtacggtc gctagtccgg gctgagtctg    2760

gattgacttg acattccagg tgtccgcttc agcagctttg acgctccagg cgactttgcc    2820

gtggtttcca ctgtccagag catagaccca tccgttttc gtagcaacga tgacaggttt    2880

ggagacgcca aagctgtcta agttcgaaac ctcgtcagcc aggatgctgg tgataacacg    2940

tttagggaga tcttttagcc agttgggaag gttctcgaga tccttaaggt gacgcttcac    3000

acngtgcgtg tacgctttga ggaggctctc gtgaccttca acttcgagtg gatgggccaa    3060

atcttgctga cctgcgacat tccgccagct tgcggtcagc gcaccggaca gcgctttcag    3120

tctagtcccc ccaaccggcc cctttggatc aatggccgtc cccggactcc aatactatgg    3180

ccgaacgaac agccacggag tcgcctttca tggctacctc tgaaaccgca tgcacagcac    3240

catctaagga agggtgctga gtccaccttc cgatgatgcc gtgagagaca gacgacacaa    3300

ctgtagtctc agaatcggtg acccggatga aataaacatt ggcgtccttg gtgcccgtag    3360

agaagacaga ccatccctgc aaaaaaggca aactgtacgc cttggaaacg gtcgaagatg    3420

ccaagtcaac gtggtagact tccgcccatg aaccggatgc cgtctcgtac tggaccagga    3480

agtggggcag cgcattaagg gcctttgggg cgtggatata gatggacctg atatcttctc    3540

cgctggtgtt ctcaatatta acctgcgtca cttgttttgt tccgatgaca ttaaccttca    3600

acgtcctatg cgacttatct gcccaggcga tgacaggaaa cgcggtgttg gcgcccacaa    3660

agagaacgga gtccggtccg gaaacatcgc tgtcggagtt gagaatctgc tgagacgctt    3720

gtcgaccggt tagaggatct agcgaggtga cgcggtattt tgtaaccctt cagcaaagcc    3780

ggttgcaggg agacgtaaaa gtcagcagtt gaggaagcgg acacttgaaa tggcacatca    3840

acactgtcgc ccgtcattat cagttaatta gtcttcgctc atgggtaggc agcaaacctt    3900

tcatcatggt actcccactt gacctcacca gttgacccat ccaatcgtct aaccgagcct    3960

gaatggcctc cagacagtgc aattgcgtca gtgaccaacg gagcagagct ggcgtcttcc    4020

agctctaaga gctcaagatc caccaccggc atacccggtg atgagctctt ccatatcagc    4080

tttccatcta gagcgctcca cgcggaaacg tagtcccta atgcgctgac aaccgcgttt    4140

tttcctccag aggcacgtaa caaaccttgg gcgtcacggt cgggcgttac ggcggggcga    4200
```

11839

```
gagaggtttt gcctccataa taatgaaccg tctttcggat tgaccgctcc aagaagtgaa    4260

ttttcggata acgtgtacag aagagcggca tttgaagagg aggacggtcg gtggaagaag    4320

gtggactgag atgaaggaac acctagcagc gcatggtggt aatcgatgtg accgacctca    4380

tcagcgtaga tggcgaatgc cgaggggacg caagaggcga ccaagaaaag cgtcgcctgc    4440

agccgcattt tatgagctcg gtcgtggagg ggtcattggg tgttgatggt tgcgagggcg    4500

aggaagataa aggtaacgta gtggagaact tggggaactc cgacgccgag ccctggggct    4560

ttgctcatct tcatctacta gattttcaga ctccatctgt ctacacgaac ttgacttcta    4620

taaatcaggt tatacacaaa aaataattgg cctcaataaa gctatttaca agattaagcg    4680

aagcacgcct tatttgccct ctcaacagcc tgtctctctc cttcagtcat gtcgtcggtg    4740

atatcccacc gctgctgtcc caagcccatg gctcgctgtc cctcagcact aatcgaattc    4800

cagtccaacg ctcccttgaa tccaagttcg cctggcccgc cggcccctgg gaagtcccat    4860

ggcggggagt aagcgagcgc cgcttttcgc tgcttgagca ggtaatcgac gttcatatcg    4920

cacattgggg ttgctgggat atagagaacg ctcgagtcac ccttaccccg atgctccttg    4980

tcgactgagt gcagagaatc acaatgccag gcaacatagt caccaggttc tacctcaggg    5040

acggacacca tcgttgtctc cagctcgaga tgcggatgtg taatagggtt gtactcctgg    5100

cacgcaccag gcaccgaccc cgggaaggta gcgtccatcg ctggctgtag tgtctgactg    5160

tcaaagaatg gtctgagcat agtgtacgca gtactgtgca caagcatggg gcagacatgt    5220

agcgagcctt cgcctggggc tgtcttggac atggacagcc agccctggaa aaatctcagc    5280

atagagcagg cgcccgcacc gttgtacaaa tccatatttg cggcgatacg gtgctttgcg    5340

tcccatgggt cgtattcttc ccacttgcct tccaggattt tggcgtatac cctggagtac    5400

tcggggtcct cccaacgctc caatgagcct ccatcaatgt gaggtcctag agtgaacttg    5460

ctgtcgccgg gctgtcggat acgcaatctg tcagcgtatg aaagagggta ccgcgtcgag    5520

attcgtgtgt tggggtctgt cgaatgccat aggcgctgca ggaaacgctg tgtatctagc    5580

acgttggagt gggctcgagc ttctgcttgc gacggcgtcc aatacagctc aaacaccgcc    5640

ggtgagtctg ggggaaatgc cttgacttta tcctgattgg ctgcgacgta atcctctatt    5700

ctctccttcc aagcccgtgc ttctttccgc ggcaccacat ttctgataac gacagatccg    5760

cgatgacgga tctccgccag gagcgccgga gacacatcac cggaaacaac gtcagagtaa    5820
```

11840

```
tccacgatag ggatgatcta gcaccgtcag tcttaaggta ctcatctatg ttatcataca   5880

tactccgctc tttttcgcct taatcttgtc cacctcctct tccagactgg gcaaaagcct   5940

ttcccagctc ttcttcaaag catccccgtt tctgcgaaat attcgctcct ttagatcttt   6000

aaaccgcggt ggcaacggct ccggtttata gtccggcctc aagctgggaa agacactgga   6060

gatatcaccc gctgccttgg taagttgggc ggatgttgat gtggatgccg cgcgggcggt   6120

tgacctggtg ataagttttg ggactgacat ctgtagacct ctgaaatgcg ttggcagtgt   6180

ctataataca attcgttcct gagattgact tgtcccaact ttataccttg gagaatgggg   6240

agtagatggc gggatcccca atgcagtaag cgggccgcct tccgtttcta gtactctagc   6300

cgccgtcgcc cacagataca gcgtcattgg catcggcatc aggatgcgga gaattccaga   6360

ccattcgtcg cgtctggcgg gtcaaggcta ttgtccccaa ttgttttttt tttttttttct   6420

atcttaatag gggtaccgtg cattggcctt cttcgatgtc gcactagatt tttgaagctg   6480

ttccagacac cgagtacact ctgtaccggt actgagttcg atgccaaaca ccttttcaca   6540

tcagtgaact tctgcactga ctatgcgagg caatcacgga aggtgaaccg gaaggtgctg   6600

caagatgtcc ctctacaagg tgacgtcggc tcgtgccagg acggtccttg acgttaccta   6660

agatgtaagt gccagttctg atctcttgta cagccaccaa ttcgctagga acaaagcata   6720

tcacggtatt taatgacaac aacaatttga gaaccaggac cttctgctgg tataattcag   6780

tggaatgtta aagcataacc taagtaagac cctacgaata ggccttagtc cgcatcttct   6840

gcaaatgcac ctttctgaac attgactcac acgtctcgct caattgcatc tccataatgc   6900

ctgtagctca tagcccattg tcctcttgtg actctaaacc cagcaattac ccaatctgat   6960

tcaggataaa attgatcttc accgtacctg accctatact agctgtgccg ccccacgatt   7020

cagttgtctg ctcctgctac atagttgact gggtgcgtgt acttcaggtt atagcacaat   7080

ttgggcacat ccaagatcta aactgacttt tagatatgga ctaagtggtt ggaaggttcc   7140

aatgcacata tattttttta cctttttagc gggagcactg cggtagcaac agacaagatt   7200

gatagaccag atacctgaac aactgagcta gggtaggcag gttgtatacc tacaatgccc   7260

agaacataag aacctgggtc catgcacaat caatatagtt cattattaac cttgcttcat   7320

atagattatc atagctgttg tgcctttcac catttacagc tggtatgtac aaataagacc   7380

ctacgacgtt tgcctgacca caggcgtaac taggtaggaa tgccgatgca attcctgctg   7440
```

```
gagttagatt tggcggaagg attaatggat acaggaagtg gtaatccttc gtactatttc    7500

agcattgaat ggttgcgcca cctcatacgt atgaacatta ttttctatag ccgtgtttca    7560

gtgtaggttt gtccaccaaa atggtcctat ttaaccctaa gttatcgaac tccaagtaca    7620

gctagataac cggagtgata ttgatacagg atgcagcgta ggttcaaacc ccagatagaa    7680

tacatttgcg ccattcaata aacagagtct ttaccataaa tcaaccaaac cataatcaaa    7740

cgtctaatcc ttcttgggct tcttggtacc atactttgac ctgctggtaa ctcgactagc    7800

aacaccggcc taaagacgac cgtcagaaca tatgaactcg gtaggctcaa tatggaattt    7860

aaaacaaggg gttccaaacg taccagatcc atagctcctc ggaccaaatg gtacttcaca    7920

ccaggacaat ccggcgctct gccaccgcga acaagcacaa cactgtgctg ctggacatta    7980

tgacctacaa agaaaacaac cagttaacag accagtccag ccagcgcatc ttagtctagt    8040

agctagacgt attgaaagga gggaagagg agagggggttg gagacctacc ttcaccaggg    8100

atataagccg taacaacctt cccactacta agcctgactc tggccgtctt acgctcaccg    8160

gagttaggtt tcttcggttt cgtgataccc gtcttcatgc acacgccctt catctgcgat    8220

cggttgatga gcgccggaga gcgggaacgg cgcgcagctt gagctttacg acatccgcgc    8280

cgtacctgat tgtatgttgc aagtttaaac ggcgatgagg agaattgccg gatcaaggag    8340

ggcttcgcgg cggcgaatgc ttgtgctgcg gcaagtgtgc ggaggatggg ttggaaacgg    8400

gttgtgctgc gcttgatggc ggtcgtgacg ggacggtgaa tgagtgtccg caggctgtgg    8460

agggcgaggg gcgagaagag tgagggcatt ttggcggctg gcagtggaat ggtgcttgat    8520

ctccgggtgc tgaagcggtt aatgcgtctg ggaataattt cggggagatc atgtgatctg    8580

aggatattgc gggcttggtt tttgtggttc acccaaggag ctggacgcgc cattcggagc    8640

tgccttggct tgactgaccg tcactggcct ccaagctgca tacgacttcc aacacctctc    8700

tacctacaac ctacaattcc cacatccgct cgcactcaac ctctagcttc tttatatttt    8760

tgagtcctga acgaataaag atactcgata aaggagaatt cataagcaat acctacgaat    8820

aatttcataa gtatcacaat ggttcgcccg ctcatcatct cacctatcca tcaccatcaa    8880

gacgattaga accagctcta acagctaaca gtccctccgc atcgcaccac cctcatccca    8940

ccccactcaa acatccaata cctcaacccg gcaccttccc aacacccata cctcaagagg    9000

cgctccttcc gcccctggag tccccgacac cctccgctca agcattgctc tccgagctcc    9060
```

```
tcgcggcgct ccatccactc aaccggccac accaacctcc acacatcctt tagaagcccg  9120

cctacttgcg tggcgccaga cccaagatgc actgaagatg gagggtctcc gccgcacgta  9180

cggtatcgcg gagcccgtgc gccgtggcat ggagctgaag attgttcgcg atgggacgtt  9240

cagacctgct gtgctgggcg gtaataaact gggaaatgtc catgaagaca tcttggtcct  9300

tgggggaagg gatacagaga tcggatggga ggatgttttc catggtttgt tattcctttc  9360

gttctatgtt cttactagag aaaaagttgg actgggctga tgtggcttgc tttgcttgta  9420

ggagacgact tcagggagcc accttccttc cacgacgaga tggagaagcg gctgcggatg  9480

gactagagtg gtggaactat tggggggcggc atcttcttat aggttaggat cgttcgcttg  9540

ttgataattg gactttccgt ggatctctca gaaataactt gatgacatga cgtcgaatca  9600

atacaacacg ctacgggtac ggaatgattc caaacgaaca cctgtgtaca agaaggccta  9660

gagtcatttt ggacttgata ataggcttct acatcgtaca ttatacagtc tgcacagtca  9720

caactgtaaa aatagatccg gcaagcgcgc ctggcgttca attcgtgccg ttacctagca  9780

taccgctcat cttcccaaac gtaatatgtg cgcatattcg aatcagagcg caggagccgt  9840

agagcgacat agtcgccctc aggctaaatg gtggaaccca aatctcccaa taaacaacgc  9900

acgatggttg gcacgagagc ccaggagaaa tcagaaacac attacaacaa acctggaatg  9960

agaagataaa atgaaagccc caaaacataa gtagagagga catgcttgaa attgcattga 10020

tgaaccggac aaagtgcaag gatatgaccc caacaatgga acagaaatca gaaggaaaaa 10080

ggaaataggc aggcgggaaa tggggtatat agggcgatgt ttggatgtaa ggcgagagat 10140

agtccattct tgggacgatt gcgaagtgga catggagtag atcggttcac gagaaaatga 10200

caagcgctgg taaggagtgt caagccataa cggcatccca ggtttcgata aatagcggtt 10260

gacgaagtac gacgtctcac accgaacctg ttcgtaggca gaagccgata ccaggcatcg 10320

gaaggttcaa aggatgtggc actgtagtgg accacaggta ggtcgggctg gtcgttgcct 10380

ctgcattaca ggggcgattg gatgaggaat gtcctagaca ctggggctcg tctccatcca 10440

gtggataacg tgcaaggtac agtccatgaa tatacgtacg aaccatcaat ctttattgaa 10500

tgacacagcg acaccgaggg ctccgttcgc tggcttctcg atcgcgagaa tactgcgcct 10560

tgccaccttt ggcgtcctcc tcgtccacaa tctcctgggg tttaacagtc atgtgcacca 10620

cgttgggtgc gtcacggctg aacttggaat ctgaacccat catcaacatc acgccttggg 10680
```

taacaggact cggaggacat cacatacctg agagaggaga tttatcatca aggagttttc 10740

caaaggatat tagacggatc gagctaggag atgacggccg aggctcccaa tctaggatgc 10800

atcagctagg agccaccatt gataccatgt tgatgaattc cttaccgtcc tgccatgccc 10860

tccaaatcaa ctccttcaaa gtgtagacgc tcatggaaaa cgggtcatag ttatccaa   10918

<210>   5777
<211>   6780
<212>   DNA
<213>   Aspergillus nidulans

<400>   5777

ggagaatcag aaggagattg aggagattat ccgccaaaat gcggtcacag agaacctgca   60

taatgccatg gagcatcatc ctgaatgtac gttgaccctt aggtgagggg tggtcttcat 120

ggccgccggc ggaccgccct gcatgaagtt tgagcacaga ccgctaacct gtgtcacagc 180

atttggccgc gtgacaatgc tgtatattcc cgttgaagtc aacggccata aactcaacgc 240

ctttgtcgac tcgggtgcgc aagtaacaat catgtctccg gactgcgcga cggcgtgcaa 300

cattatgcgc ctcgtcgact cacgctacgg cggtattgcg aagggtgtcg aacagcaaa   360

tatcctcggc cgcgtacact ctgcccagat taagattggc gacatgttcc tcccttgctc 420

gttcaccgtc atggaaggga aacacattga tctcctgctc ggtctggaca tgctcagacg 480

gcatcaggcg tgcattgatt taagacgagg tgcgcttgtc atacaagacc aagctgtccc 540

gttcttaggc gaggcagata ttcccaagca cctcctcgag gagtttgagg atgagcctgt 600

cattaagggc gcggatggcg cggaggtcgg cgcgcggact ggcgccgtta cacaccaagc 660

tggcggcagt actcctgctc ctggacctag ctcggctgcg aatgcaacgg cttcatcttc 720

tcgtccggct gccgtgcata daccgtcgcc gcgctggccg gaggcgtcaa ttgcaaaaat 780

cacagagctg gggttcaccc gtgaggaagc gacgcgtgcg ctggaggccg cgaacggaga 840

cttagacggg gcgatagggt ttctgatatg attgatatga ttgattccat tccgagacaa 900

aggctagtgg cgatgttgag ttggagtttg agttaccgac tacggggaat tggtacgacg 960

tgttccatta aggcagtgct tacctttat gattcatggc tagcaactat atgatagacc 1020

tgccgagcta ctgtttcgcc ggcactgtgt attgggcatc agtccttcca gaccatccca 1080

ctgtctggca ttgcatacaa aataacatta tatatttccg gacactttct cctccccgtt 1140

```
tagttggttt cgcgggatca aggtcagtgc caggatgcca tccccattgg cgtagtaacc 1200

aaaacgtctt attcattcgt aatctcacag tcatcaatgt tactgtagag tatggctaga 1260

tgtgaatgaa gtgtatataa caatgcaata attgtagtgc atgcgtccct cttttccaca 1320

tccgacatac gtgctccact aacaaaaaat catgataata cacttaccac acggtatggc 1380

ttgcccttgt actcaagtgc tcagcaggag ctatgatgtt gcgcggggga agataaagag 1440

aaaacgccga tacgatcact cccgtttcga cttgtccagc ctcaggaggc tcgaccgaat 1500

ccgcccgaac atatctaagg ccataaacgc ccctatgata aagtaaaaat tagctcaagc 1560

ttcgagactc cgagctctta agatggtggg gctagcgtac caagcgcaac gtaagggccg 1620

taaagcgcgg ttaaattttg tttttcggcg gcggtgcggt cctcccacga ccaaacctag 1680

aacagacagc ccaaggatgt gatgaatgac tggaagccga acacaagcag gtgaactggg 1740

accacaggat catctagcaa gttgagaatc cggattagcc agctatcagg atcaaaagat 1800

atctgtcacg gaatacgagg ctggaaccgc cgcagttaca actagggcta gctcgcatgg 1860

tcctcaatga ctcctgtaca gagtactccg tagggcttag tgtgggtcga tgtacctctc 1920

aatagggcgc cgagggccca gatactcagc ggaacatgat acaatatctc catccagatg 1980

taggaagtaa accatgctgg aacagagtct tcaaagaact tatcccggta tgtagcagtg 2040

taaaaatcac gaagttggcg agagacggca ttgtcaagta gaccggggag gacgggaacg 2100

gcgtcaacca ctattgagca atgtcatacc actcgggcgt tagcaatccg tacgtagact 2160

atccgtagaa gtttctgcat ctggctgcac cttggtagat ggtgtccagc gtcgtcaatc 2220

agccaaattg tgccgtttgg gcagtggaaa tggtctgtct tgtggaggag accggaagca 2280

tggctgcggg gacctaggag aacaactcac agaagatgat aggaatgtgg attgcgaaga 2340

acccaaaata gactaggtcg cgtttccggt tccaaagcga ggtcatactt gtctgacagg 2400

cgggtcctgg ttcggaacga acgaagaaac gatatgcagg agttggagac gataggtggt 2460

gattcaagtc atcaaaagcg tggtgaaagc tccgactcac aacgcgccca agaaaagacg 2520

aaggcgcgta gtcatgtgat tccgtgccgg gctaggactt gggctggtgg aaaaagcaac 2580

gctctcttct agtcttaaca cccaaggccg agatgcaagt accgccgaag gcccgccgtt 2640

caccagatcc aaatcggtgg aagaccggca gagataaggc aggcctcggg ccataattgc 2700

tttttcgact cacgcgtctc gaaggtccct aaacatagct tatccttagc tgcgtggatc 2760
```

11845

```
gcgcgaatgt acgcaatctg ctcctcgcgg taagtaaagt ttagcgtcta gcctaaacat 2820

tggaagcctt cactttgctt tttcgcccgg cttttggctc ttgtagtata ttctaacatt 2880

gcaatttggc tcagataatg gtctgccctc gctgcccaag aaacagaatc catgacctaa 2940

tgcaaattcc cagagagcgc gatcatcctt cgtccatgcg ttcgcaccta ctgcgggatc 3000

gattgttcaa gaaaagcccc tcaccgcaac tttgaactga caattagatg ccgggttcca 3060

ttgcggtttc ggctcatgag aatgactcgc tggcgctcag catgacgaca gggccgaagg 3120

tactcacaga ccatcggctc tcgagtcgac cggtctcaaa gtacgtgctg atcgggcata 3180

cgctcctggc aatcggcttg actcagtaat accgccaaga tactgcaggg attagtgctc 3240

tggccacttt cagggcgaag gatagtatca tccaatgtgt ttctcgaatt cgaccagaca 3300

gtcagactac cgcatggatg ctgcatgcgg gatgcagcta gtctccccga gcctagcatt 3360

cacactggat tacctcaggt ttgtggtcct tggagtcttg cactagtgct tgccttcgag 3420

attgggacgg tgctaggccc gctttcggat ccttggggca agccacggga acttcacatt 3480

tagtgtcaaa gctatgaaca ctcggtccaa tgatagagtt gttctcgaac atagcatcga 3540

atccatgtgg atcctttcaa cgacccgaag ggccgaaagg tacctgaaag gacgttttct 3600

cgggacttgg atgcgggccc tggagtagac gtacgaagcc gtttacgaat gacggcgttc 3660

cagggttgtc acttttgccc tatctggcat cacccagttt cccttcatca aggatgctga 3720

tccttcgagg tttcctttgc agcacctcga tcaaccagtt cccgccctgg ttcgaggagc 3780

agccgagatc gtcttggact gcccgtttga atccacattg gactaccgac gtagcacgaa 3840

tcgatatcat aaaccgatgg agagtttaca caatatggtg gatacacggg ctgatttgat 3900

tttgattctg cagcctcaat tgagatgtca tctgcacttg gcccgtgaga ccattatgcc 3960

agcaattgat ttggctttgg attctggcat gcaagtgaat ttcgccttcc ggtattatat 4020

tttcctcaga atcaaacttt cgtctcgttt ttcggtcagc gtcggcaagt cttcgaacaa 4080

gatcaaagga gagattccat gtagcttagg cgctcttctg gggccgaaat caatgatgta 4140

tactttctga ctccaccgtc aggattcagg aataatctac cgggtgggta ccccaagata 4200

aaccacggac attggactgg aaacccgaaa tgagatgggg ttacgaggt cgcaggctca 4260

caggatgctt ggcttgaaac aagcgcgcct gctttctctg tctctgttaa attcaccagc 4320

agccaatggt atcgactatt caggccaacc atcacaagga tcatgatagc gcaccctccg 4380
```

```
agagaccact aacagccgtc ggctaagcaa acccgtgtgc aaccctagat ttcgtctcgt 4440

ctcactatag agcgagccta tcaggatatg aagctgtcgt ttcatcagag cttttttgcgg 4500

gtttaggggga agttacagtg ttttcctggg agcccgcgac ctcggtgaaa tgaactatcc 4560

gaattagaaa ggacgatctc cgactttttcc ccaatcaaat gaggtaacaa taaaacggcc 4620

agatacgata ttgatttacc tccccactgc tccgtactaa cgtggcacgg aatagttccg 4680

gaggaccacc tgcatttacc ttatcaatca ggaaatggaa atacttacaa tccaccaacc 4740

gaagcaatgg aagatctgat gcagtgtcgc aacgccattg aaccaggctt ttgatgcaag 4800

gaaaatgata aactgattgt gctacgtatg tggaacatac cttgtctacc atcgaggcca 4860

ctgtagcaca gggcagaagc acgccttgct cggaacttac catcttctca caagccatgt 4920

aaggactaat gcaagatagc aaagctacag caagctgcag ctgctctctc aaatcttggg 4980

cagctagtta ctgcacagaa agggctcgtt cagcgatcca gaaccagccc gctccggcgc 5040

gagaaacagg ctcagcagct cgaagatatt gggccaacat gcatgctaac tttacggtcc 5100

cacttaatca tccttctgcg gttttggctc cttatcggtc gctcaaattg catcagagag 5160

cggtgaagtt cccggcattg atgggatgaa cgctggagag ccaatccccc ggaagacgcc 5220

ggcagcaggg agttgaaggt gcttagtcgc gcatcgtcaa accaagatcc aatcatcccg 5280

atgatcgcat ccatgaggta tctagtttgg gacagctgtt cgttcgcgga ttgcacaagt 5340

tatgtgccga cgatgagccg ttgaaagcct tttcctttga ccgcctctct tccggcctct 5400

tgtgacaatc gcggactcaa gtccgtatgg gtgattccag ctcctttcat ccagattcct 5460

ccattcgtct ttccgtcctg tttattttgg cagatttcga cttctgtcga gtccctcctt 5520

tcatttgagt ggtccatttc cctgccgctg cccctcatcg gccccccttt acgacttccg 5580

tttcagtgtt gtatgtcgtc tgcccggccg cgatggcacc cctgctcacc atggcattgc 5640

ggaaaacagc tcatctgcgc atttgcgcat cgcaacttaa aggattacag gtacatcaag 5700

ctccaagaag aaaacatcaa agatgagcaa aggtttgtct gcggccgcga gttcgcaaag 5760

ccgcttacct ggaaggaaag actacctcaa ggcgcgtcaa aaaacccatc agtgccgtca 5820

gagttaggtc tacagtctac atgaacaaga aattgccgtt gcatgagcga caagggggggt 5880

tgatgaggcc aaggaataat ttgtatcgtt agaggaagga actggttttg ctaggagatc 5940

gcgccaaagc tcagaaatgt tgtacaagct tgttaaatgt ccacagcacc ccaagcaatt 6000
```

11847

agatcagccc aagcgagtga aagacgccgc agcagctgag cgagacgaac cggaagtcta 6060

aggagatgga ggctcagaca ccaagctcgg ggaaacattg tatattcagc cattaaaaaa 6120

ttatttatca gaagaacgtc agcgcgagca tgatttgctg gctactgacc aaaccaagct 6180

caggtggccc ttgagcatcc taattctctg cttaactttt gattgattgc tggtatctgt 6240

attatcaacc cggaaggtct gcatgcatca gaggtaaatg tgtgcataac attgcctatt 6300

ccctgcgtaa ctcaagaata gtgtatattt ccaggccaat ctaggctccg ttgatctcgg 6360

caacatggtc tgtcaccaaa caagtccagt catcggtgcc atagtataca gtgtactggt 6420

catcagctgt ttggcctccg ctaagatcgt cgccaaactg ccagaacaaa tcacctgcca 6480

tcccagttgc ggccaaagaa gtatcctgcc agtccaaatc gttggtacaa tggttattct 6540

tgattccgta ttcctcaaac aggcacggct tgtcgagagt atcgcagatt gcggcgtggt 6600

cttggaccca ttggtttccc caggagttat cgctcacgcc ccctaatgtc atttctgatt 6660

agcgcaagac aagcagagca ggagaatgaa acatacagtc aataatatag agatgcaagg 6720

tgccaaagtc gatatcagga atagccagat tcagagcaaa acaatgacgg cgaaggcgtc 6780

<210>   5778
<211>   6480
<212>   DNA
<213>   Aspergillus nidulans

<400>   5778

tgcaaatatt gttcttgaag ggaaaaagtt ttgagacttc atattttcgg cgggcggaac   60

cacaagaaac ttcggcgtcg gatatggtcc gtgcgttccg ctccgggcat caatcagcac   120

aaagtatgag actcaccatg gattgattag tagaaaaaaa tttactttgg tcactaaatg   180

tatcgcattt acaagcatta tatgtatttt gctattcgtt catgtgcagc ttagcatcca   240

aagtatctgt gctccatcca ccgaggttcg ctctcctctt caatacgtcc aacaatgagc   300

ttgacatgcg ggtaaacggc ggccaatcgc ttgacgcctg actgaacagc tgcgcaagtc   360

acaaaaatga ttctgtcttc cggcacacca tggtcaatca acacacgcac tgccatcaaa   420

gctgcacctc cactcgacat ctgggaatca agaagcatga cattcgaatg ctgttcgata   480

cctgggggca acttaaggta atgtagttgg ggctcctctt tggtctcatt agtccgaatg   540

agcacgcgcc cagtgacaca gtcgggaatc gtccgtttga gagcggtctc tagacatgag   600

cctcctcgca gaatagcaac cgctgatacg atgccttcct gcttcaaccc actgtacatg 660

ttatgttgag gggtttcaac ctctttgggt gcgtacgaag tataatctaa agccctatac 720

ctgctgtcag ccataccgtg cgaatggctc gagtcggata ttaggatgta cttttcaatc 780

agcaaagcag ccaacctgtc gaaatagaac acgaagtcga cttgctccgt ctccggattc 840

tggaggatag tattcatccc aatggactga ggcgtttgcg gcatcatgat aacattctgt 900

gataactgtt cttcgaatgt aatgcgccgg agctcttgga gggttgcact gtgcctctcg 960

gactttctt cgagcatgcg ttgaatatgt tgtacaacca tgccttgctc gttagactag 1020

cagtaagaag attggttgag ggggctgtta ccaatcgcgg ttttattttc gatacctcga 1080

ggaatgataa tatctataat attgtttagc atagataccc atttaaattg gataaatgaa 1140

gaaactcatg cttacctgag accgatcttt gaggctcaac aaacttttg tacgaaggct 1200

tcacatagtt gaaccattgc ttgataattc catcaatatc tcgacctctt tctttgacat 1260

cacgcaggac tatttggctg ccgtcagaaa gctaccggtc gttaatcacc gggttactta 1320

cctctacggc ctaaacagac gtccatatcg gcttctacga agatcttgaa atacaagtaa 1380

gctccgcgac aatctcccta atgataacgg ggagcatact ttgacgtcta gaagctccac 1440

aatcctggga tcatggaatg caaggatccc ttctaaaatc aagacatggg gagaatagag 1500

gggggtggta tgggcttgac gttggtgttc gacgaacgaa taaacaggta tgtctacctt 1560

ttttctttca ggtaggcaaa gaacgtcagt tccaggaaaa gtagcaggga ttatcgacga 1620

ctggtgcagc acgagtcaaa agattatggc tactataccc ttgtttgaga tctctaagac 1680

actgcactaa gacgtcgaaa tcaatcgagt ctgggctgtc gaaatcaaac tcgttgcgat 1740

gtgccttggc atgctgctcc gggttcaagc tcttgtagaa tgaatcctgc aacgcgttag 1800

acctcataaa tcagatagct atattggggc ccatttctag taagagaagc ttgttcatga 1860

taccattaca aggatgacaa cccagggtaa gtccagtgac ttcacaattt ccattgccac 1920

agacgttttg ccagagccgg aactgccagc aattccgata atgctcaaat ccgcccatgg 1980

cggagagtag cgcttgtccg acttagtggc agcagaatac accggcgaga tcgactccat 2040

gttgcctact gtacctgggc aatctgaaaa tcacacacaa gatgaaaaaa tcaggatcaa 2100

gtaggcaaca agggtcgacc caggaagagt tggttcgata agactgcagt cgcagagatc 2160

catttgtcgc tcggcagtgc gatgaggcta aaacatttta agcggtatat cctcccaatg 2220

11849

```
aggcttagcg taatcacttg ttcttcagca gctttactca gactctccta gtagtagaac 2280

tattactgca tctgaaacac caatctcact tctgaatcct cttaaagcgt tcatacgtac 2340

ggtcactggg ctgtatttta ccatagttgc aggcacatgc catgctgagg acaccagttg 2400

gtctcgatgc atcagcatgc aagagacgct tgcgccaatc aggattagtg ctggggcgaa 2460

gccttcgctt gctgctggcg cccacgtgac tagatcattt catctttcct cttccctctt 2520

attccgtctg ctctttttct tcttctcttt ttctcttcag caccctcatg gctcccgtct 2580

gcgaagcttt ccatcttcac aggcggccta tgattcagta ccagggcact tgacagttcc 2640

agcaagcaca ttctccatct cacaatcatg tctgctacca attacgtatg cctctcggcg 2700

tttggtgcat ccgtgtttgc cgctttttaa cacgggctgc aggtgtctcc cacgtcttca 2760

acatcaacgc caacatggca ccacttcgag cgcaaagtcg acgaagttaa gccgtccaag 2820

acgtacgttc ccttccctcc aatattcgtc ccttacatga tgcgtttata ttcaagttgg 2880

gaatctctct gaaaaaaata tacttgagga gaacatataa cttgtgtttc tgatacattt 2940

ctgcccatgc ttcgttcagc tggagttggt tctttgtcca tctgctgacg ttttcaagtg 3000

atatgaacag attggttatg gactacctag tcacaaatgg ctacccagct gcagcgcaga 3060

aatttgcgct cgaagccaat attgagccag tggacgtcga atcaatccgg gagcgggttg 3120

aaattcggac ggccatctac tccgggaaca tccaggctgc aattgaaaaa atcaacgaac 3180

tcaatcctca ggtaagaaat acattcactc tgcaccctca tcacaccttt cctgttatga 3240

ttagaccaag tttcatgcac cactcagaac accctcctgg gttttgttga taaacaaaca 3300

tcttcagtcc tcagtatgac tacaacctca acatgatcat agctcattgt cattacttcg 3360

tctgcgacat gtgctaacta cttaatgcag attctagatg aaaacccgtc gctgcatttt 3420

tcgctacttc gtttgcagct tgtggagttg atacgctcct gctcggttaa ccctgatgga 3480

gacatcaccc cagctcttga gtttgctact tcccagctcg cacccagggc accaacaaac 3540

ccccagttcc ttgaagacct tgagaagacg cttgcgcttc tcatataccc caaggagaac 3600

ctaacaccat ctctagctcc acttctccat tccgatttac gtaggggacat ttatgctaag 3660

gtcaacgcag ctatcctgca agaccaaggt gctcgtacag aagctctttt gtgcgacttc 3720

gccaggttgt acgcttgggc ggagcaaaag gcccgagagg ctaagaagga tatccctgac 3780

aagctggatc ttgggcttgg ggaatccaac aatagtaatt ctaccctgga caacacggcg 3840
```

11850

```
aatgcccccc agcttggcgc ctctaacgat actgtaatga ccaacaacgg agacgttgat 3900

tcgatgatct catgaccggc tggacctgtc ttgagttata ccatgtttat cttgcgacct 3960

gatcaactgc ttctttatgt ttagcctcgg cgttgggagg cgtcgttgct gtcagtgatt 4020

cctgtcaatc agttatccag agcatatcat ggaatcgttg agagtaccta tcttgtctct 4080

gttgctacga ttcggtaacg actagccgac aaacatatct tcgtacccat aaccatttta 4140

catcagtgtc ctaacgcatc ctacatatgc taattagctg caccattcac gtaccgtcgt 4200

ttaaaccttt tagtaaagta gctttctata ttttgctaag tggttttgta gtgcggtgcg 4260

tctgaatcct tcaagtactt ccagcataac attgaagcta ttcccaacga tgctaggatt 4320

ctgcatgacc cttttgcgtc aattaaagcc taaaacctta ccagcatgaa ttaacaagaa 4380

tcttcaataa gtgcttctaa acagtaccct agaagcgtgt acatgcttat acagaccatt 4440

ataatagctg cttttcctct agatattgtt cttgaatcca gcccttcatc caatcccaga 4500

tagtcttgat tggggggaac tggcaagaac gggctcatgg tacaggatgg atcccacatg 4560

cagtaagatt atacagaacg gtaacccgct tggccgggtg cctataatga atcagttaaa 4620

gttagatagc ttatcgccat attagggtaa ttatagatct aaattaagag gcccaaccca 4680

attgcgataa ctttctataa ggatatatat ccattttttc ttggctctag gagaggtata 4740

agaagatcat tatgccacaa gcgcttggaa tcttgctttg gttcgggcac ttcaggaggc 4800

tcgtgtgtgg tagggaccat ggctaaaaca tgcagcaccg ccaaaaggtc tccaaaacat 4860

cagtttcatc actagaaaga cggtgactag aggcccaccc gtactagcaa aatcaccggg 4920

gccaaccaca gtccatacca acaaaggaat aaagatagga tagttgataa tattcattga 4980

caggtgaaga aaatgctgtc atgtacaact aagtcataaa ctgtatgaaa acatgctggt 5040

ccttatcgc cagtaaatgc gcatggctgt ttaagtgcgt ctatgacaac taactgggga 5100

tatacttatt ctaccacgtc cacgatttag agcttattgg gaacggacat aatggttctt 5160

acaataagaa acaggtttac tatcaagaaa ggccataact aatatgaact ctgacaatgt 5220

ggatgtagga ggctgaaatg ctgatggtgc atagcacggt aaaggtcgtt tggataagtg 5280

gtatcgcctg gcaaaggaaa agggatacag ggcaagagca gcatttaagc tggtacagct 5340

gaataaaaag tatggcttct tggaaaagag caaggtgttg ctcgatcttt gtgctgcacc 5400

aggtgtgagt acaccagata tttgcttctt tggccgaaat taaactgacc gtccaccaag 5460
```

```
tcatggtgtc aagtcgccgc agaatgcatg cccgctcaaa gtctaatcgt cggtgtcgac 5520

ttggccccaa tcaagcctat cccccgagtt atcaccttcc aacaagatat cacaactgaa 5580

aagtgtcgcg ccactattcg gtcgcatctt aagcactgga aagcggatac tgtcttgcac 5640

gatggtgctc cgaacgtcgg tacggcgtgg gttcaggatg ctttctccca agcggaactg 5700

gtgctcgaat ccctaaaact cgctacagag tttcttgttg agggtggtac atttgtcacg 5760

aaggtcttca gatccaaaga ctacaaccct ttactttggg ttttcaagca gcttttcatg 5820

tctgtcgaag cgaccaagcc tccgtgcggt tttaatgtgt cgccgaaat cttcgttgac 5880

tgccgtggtt acaaggcacc gaagcgcatt gaccccaagt tccttgattc caaacatgtt 5940

tttgccgaac tggcagatcc tactcccaac aatgaggcca aggttttcaa ccctgagaag 6000

aagaagcgga agagagaggg ttatgaagag ggcgattgga cacaatttaa ggagatccct 6060

gtaacggagt tcatcaacac cacagatccg attgcgattc tcggttcgtg caacaagctt 6120

agtttccagc aacaacccgg aggagacctt gctttagcca ctttggatcg acttccagaa 6180

accaccgacg agatcaggaa ttgctgtgag gacctgaaag ttctgggtaa gaaagaattt 6240

aggaaccttc tcaggtggcg tctcaaggtt cgcgagaagt ttggactggt agtaaagaag 6300

ggacaagcca aggatgatga agccgaagag gttgccgaga ttgctcctat ggatgatgag 6360

cttgcaatcc aagaagaact tctccgtctt aaggaaaagg agagtgctag aagtaagaag 6420

gaaaggcgca aggaaaatga gaggaaacgc aaagagatcg ttcgaatgca gatgcacatg 6480


<210>      5779
<211>      5787
<212>      DNA
<213>      Aspergillus nidulans

<400>      5779

gcatcacttc gaggaattgg cgctgggata actgtttagt atatcacaac gtcttatcga    60

cttgccatat cattaagatc aacagtgaaa aaatgccttt gttctatact gagttgctaa   120

attatagtaa acttcatcgt tctatcgctg atagtataca gaaagtcctc atctgttcaa   180

gtatgtagaa atgggctctc atcaagacca accgaagcac tatatctctg tatctagtac   240

ccctcctggt tcactaggtg aaactgcgca ggcggaagat cgacctccac gggcccaaaa   300

tacttctcaa acacctcaac caagtcctcc tcagccaact gcatatgttc ccccgacagc   360
```

11852

```
gtcttgaaat ccaatgctcc cttctcgtcc aacactctca gccccagcca atcctccttg  420

tagatgtccc tctcccgcaa gggcgtcact tccccggtag tcgtgttcac ctcggcaaac  480

caggagctct cctttggatg cacaatagta tcatcctcaa acatgaacat ggcaaagcga  540

ttcaaggtgc tcaagttctt cttgtaagtc gcattcttca gcacccgctc gttattcaca  600

tccgccagga agttgctatt ctccaagtac tcgcctagct ccgcgggatc tcggaagtac  660

tgcgccggga cgaagcgcga ttgcacaaga ttcgaccacc gtccgacacg cagaagggcc  720

tcggctcccc ggcagacaaa gtcgccccag ctgcacgcct ggaactcaaa aatcccgtta  780

tgctggctgc caaaggtgac gaggttgcgg actggagggt tattgcatcg ctcgacgtat  840

gcgcgtagaa actgtccgcc ctgtgagaag cctaaagcat tgattgcggg cgcagtggag  900

agaattggtt cggcggcaag ctgggcacag acggtggata gttgctctgt gacgttccct  960

aaaaatgtgg cttgacgatc actagatgcg gagtccccaa tatggattat atgtacatat 1020

gttcctgggt tggttgattc tgcgagcgat gcaacttgtc taaggcctga gcgggtgtag 1080

tcgtcgccaa gcccgtgcca gatcacaagc gggagaggag tgaattcgga ggaggccggg 1140

gatgcaggta aggcggcagt gagtagaggt aaggcgacga gagaggtata tgctaggggt 1200

ctcatattgg aagttggtga agcaaagcgt aaaacgtagc aaaagatgtg aggaaatgag 1260

agagcctaag aatgttgggt tagatatgga gacacaagtg cggagaagct tccgagtccc 1320

cacatgtgat ctgacacagc agtgaatcac ggaagtatac attaaccaga ttttgaaggt 1380

ccagaatcat tactccgaga gcatcgatac tgctacatgg gagcttcggg ttctaatcgg 1440

acgaagctca acagcacaat cttgtttaat aaatccatgt acgcagacca gactggaaca 1500

tatccttaac atcactgacc atgaaaatta gaatcaagct aaatatatat atatacgtac 1560

aaactataaa tttccgtaca atgtaccatg acaaagaact catataacag ggatatagta 1620

taaaaggaaa tctagagggg tgcaatgtgc agaaggaatg gataccgagc cttccaatag 1680

gcaaggacgg agaaacaggt agaatatgtg caagcgtccc aaacaaaaga acatgatgtg 1740

gttgaagtag tcaggagcca ttaaaggctg cagttggaag gaatgaaatg taaaagagaa 1800

ggtaaagaca agtcgactag taaggtgggc ggccaatgcc accagtcaca ctacgtcggc 1860

cactgtagtt ggaagcaact ctcggttgaa gagtagaagc tggttctgat gatgataaaa 1920

ctccttctaa gagtttctgt acgtcgcgtc gctgggaagt ctcttctact tcctgcaagc 1980
```

cgtacgagtg agttcctgtg gatttaccgt tgatcgctac ctcaggaact tcggcgccgt 2040

tcactaaccc gacaccagtc cgagatttct gcctatgcag agtcttgtca tccgcagggg 2100

ctgcgatgcc gaactttccg ttgatcaagc tctgtttgcg tgatgaagca gttgaagggc 2160

ggtcaggtgt aggcagcgaa cgctgagagt cgttgggaaa cccgcccggg atagatatgc 2220

catgcggaat tggtgggact ggggtatgg aggaggacga agcccgaaac gcggtttgta 2280

ggtacccgta gttattccca ttgctcagag gtctcggtgt ttccatacca tcgccatcaa 2340

gcggctcttg tccatccctc gtgggcagta ggattgaccc accatcccct tcgaactcag 2400

aattggagaa cccgctaacc atactctcac tactagaaga gatgatgctg ccattagagg 2460

catccagccg gccccgcaat gggcttagtc ggcggtccct atcgggagcc tggacagaga 2520

gaacacgcct cagctcgttc acgcgaacag gagagtctct gctcgagtta tggtttggtg 2580

tcaccgtttt gtccggcata ctcatgcgac gagaagtctg aagacccgct gtggcaacat 2640

gggctgtaga aggtgagttt gtagagatgg aactgccggt accattggcg tgcgcatggc 2700

cacgcacagg taaggtccct gtcctcgaac cgttgagaga gagagcttca gctttctctc 2760

gctcagcagc ttccaaggcg ctctgtttgg accagggga caacatttgt tccctaacta 2820

ctggtggaag aaggtcgctt agttgttggt ttgcgggtgg tagatatcct cctattaccg 2880

gcttgcccag attgcgcccc ggggaggttg gcggatcatg agcaggcacg gtccggttgt 2940

aggactcctc gatccgacgg acaaactcct cgacgccatc tttgaaaaga gtcattttat 3000

ccgtctctct agtattatgg ctgagagcat gtcgatcatc cttgatgata ctttcgaagc 3060

tttccaaaga gaatccaatg ctatccagcc aaatgctgcg ggatttgcgc ttctcaattt 3120

cggtgtagat ctcctgtccg gccctatggg tgtccatggc cgaaagtctc ggacaatacc 3180

caaaggtatc catgcgtcag gctgccaata ttagctgtag ctgcttgtgt atttgaattt 3240

tctaaagtgg tcatgtcatc ttgtagcttc aggatcattg gcagtccaaa cctagccgca 3300

tttatgccga ggttctcaac gaggctggct aaaagtaaat ggagtatcct gatctccttc 3360

tcttgtgttg aactctgcag agcaacgtca tagattgtca aatgcagtag acggaggaag 3420

ttagactgag ccacgaccag ggccttctct ctatgatgag ttcccgttgc acgtttagca 3480

gccctctcag aagtattgga gaaatcacgc ctcgctgata ttaaagcagt cgtggtagat 3540

cgatccttca actttaggtc gtttttattc gtctccaatt tcagccagta taggagtgca 3600

11854

```
tcaacgtacg catatcggac ctccttctgc ggatcttgaa ggagccagtg ggttcctccc 3660

agacgtggat ccaacagggt ttcgcgattc gacaccagct gatgtcatag gccgttgaga 3720

attagccact agtaggatgt ttttgatagc cctgagagca cagactttcg cactggttga 3780

gaaaaaagat gttgggtttg cttccgataa atgcccgtct agctgttcag gtattactgc 3840

tgaaacttga tcttgaccat gcggcggttt gattcgagtt aagattgccc tgagcatatc 3900

aacaacttga tccccgtagt agatatgcgt agtaagatca ccgatgcact tttggaggag 3960

tacaagcagg tccttcttct tctgagatag gttcgtgccg tcgtcgtagc ctggcttctc 4020

gctggagtca ggctgttcat cagtcccttt agccgatgct ggtgatacta acattgccat 4080

atagcgcatc aatcccagca gaacatcgat cacgctaagt ccgatcatat tcactgagga 4140

tttcaaaagg tagtcaatga tatatatgac tgtgaatgct tcgtcaagtg tgtcttcctt 4200

cggtgggatc tcgaacagaa cttccatagc agcacttgag ataatgaaac gagcctgaac 4260

tggacaccat ttggctacga cttcaatcaa tgacgtagcc caattgtttt catcagtatc 4320

cagcgacaag tatgtgttat tcgattgtcc ttttcgcaaa atgaaatcga gcacgagtct 4380

agtagtgagg cgaatctgac cacggctgct accgttgaca atgacctgat ctagacagcg 4440

aagagcaagc agcctcatgt ctaactcagc tttcctgtca acatccgcaa tgttctgggc 4500

agccaatgcg cggatcccct tccgcagtgt caacggtttg gacggtaaca gcgctatacc 4560

tccgtcgaga cgcagggtcc ggcacattcc gctccgcttc atggagtttg tgttcaagag 4620

actcaataaa cgaatcttcc ccattgtaca gattttccat aatgacgggg agtattattc 4680

gcagcaaatc accgccatct gctgccaagc cagcttcaga gctgactgct cccttgatag 4740

ctcgcagtcc tgcattcttc caccgtatcg tctgcggaag gctagagatc ttcgacggat 4800

gttgctgttc ttcatgagca aagccagcgt atatctgtat aacatcccgg tattgattcg 4860

caaaatcctg ctcagcggat agcgcagcca tgtcttggtg tcggcagaag gtctcaaacg 4920

tcgcaatcga atcctctacc atagagatat cgcgagaccg aagtacggtt tcgatgatgg 4980

tcaagacaga ccgcgcgaat attggtagat cacggggaac cttttcaatg agcgcgctca 5040

gtatttgaag tgtgacttgg acatttctaa cgaagaaagt cagagtcagc gaaattcagc 5100

agtcaaagaa tagcaacaag tagtcatctc ctgaatcatg gcctcccata actcacccga 5160

ttttacggcg ccagacatct cgggcggctc ttttctctag gaaagcgctg accttgggga 5220
```

11855

gcttgctgcg cgcgtgctc acgtagtaaa gaaggtatga gagttcgctg gaattcggct 5280

tgacctcttg aactccttt tgatattaag ggtaacactt gagtaccagt atctggtgct 5340

ttgaccggca tgtctggcgt acagtttcca tcggcatggg gagagggcgt ccgtagcgat 5400

ttctccagcg ataacggtgc cggttccacg ataactgatt tcaaatggat caaatattga 5460

agtccaaaga tatccaggcg taacgaatga gatcgagagg gcgatttcga taaggtcgtc 5520

gttaaaccat cggggcttca ggagagcttg atgtcacttc gcagctgtga tgagcggaga 5580

ttggtgagat tgcttggcga gaggagttcg cagtcgaggc ggatactgcg ggatctttaa 5640

gaagagagag aaggtccatc tgcagcgaaa acccaagtgc ggtcaatctg cacgtagggc 5700

gacgctattg aaagacgaca acctgtcgtt tgggagatga gggaggcccg atgggggaca 5760

gccaaaatta acgtggttgg gtcggggg   5787

<210> 5780
<211> 5136
<212> DNA
<213> Aspergillus nidulans

<223> unsure at all n locations
<400> 5780

gtcagcaaaa taaagcatcc aataactgct ttccatgatc gtgataagtg acaccgttgg 60

attttccatc caaagcggta aagatggcat cgccgaggga acatcgcagc taccgttggg 120

taggatagaa accaggatgg tggtcctggt agttgcccga agattgcgaa atgtgactag 180

gagtactaca ttagtgctat tgtggtcatc tcggatgata gtacgtcagt tgctgatgaa 240

gtactccagc aagcagttga tactggaacc gccaaagtta atgggaatgt ggcctagggg 300

ttatgtctca cctgcatgct tgccttgaaa gaggagtctt ttacgagcca ttagatctgc 360

agcgaagaaa tcatgttccc gctggctata gcccagatat gtgaatggtg aaatagtcgc 420

ttaccgtgga tagccgtgtc atgcgctctg ctgttcaaga gcaaaagaat aaagaagaat 480

ttgtgagcaa gaagttaatg tcaaggaaag ttggaagcta caaggaccac gcactgtgat 540

gccaagaagc ccatgtaaag attggcgcat cgcaaactac ggcggacgta ctggcctgct 600

gagagggtca ggcaaacctg aatctgattc tgcctgtaca ctgctagcta aattgacaat 660

attgtagcta tgacatccag ctgagtactc tgcaccttgg catggatcct tcagatagac 720

gccagatgac ggtcagcgtc aagcaatgtc tcaccagcat catcccagcc catcatccca 780

11856

```
gcccatcaat ccatcacata tcagaagcca gcttctcgcc ggatactcta cttggcactc 840

ctctcaatcg tctcgacatg gtttgtgaca agacactcaa actcttcact gccgtaatag 900

aacgtgttcc cgtcgtctgg agagggaccg ctgctcaggg tatccccata ctgccagtaa 960

aggtcggccg cgatgcccgt cgcgttcaga gctgcattct gccactgttt ctcaatggcg 1020

cagtggttcg acgtcacgcc atattcttcg aacagacacg gttttccagc ggcggcgcag 1080

gcagcggcgt gcgaagtgat ccagagcttg ccccagtcgt tatttgtgcc ccctgcttct 1140

tcgttagttt tgtgttttgt gcacggtagc gggtcgaaat aggagaagct attgagggtg 1200

aaaagagaag acagaggaac gtacagctat ccgggtagag atggaacgtc ccgaaatcaa 1260

tggtatcgat ggttagggcc gcagcaaagt cagagccctc ggtgtattgg aagggatagc 1320

ttccatcgga gcctgtatca aggccaaatc cctctagagc ttatcgtcag cttgtccgtc 1380

tcctggaacg atgcaggttt ctgggaaata gaggaatggt ttgtgtaccg tcgccgatgc 1440

aaaccaaatg cttctcatcc aagcccttga taaacgcgct cgtcttctca atccagttat 1500

gcaacacact cggctcacag ccggtgcagc gtggctcgtt cgcgagttcc cacgcgaaaa 1560

ccgccgttga gttaatgtat cgtttcacca cagcctcgac gtacgcctga tatgcagcct 1620

ggatgccctc attctcaaac caatcggcct tgtcaccgcc cccataagcc cgcatgtacg 1680

cgttcatgcc accataatca tcccagtagt tcacgaaatt gataatcagc ttgataccgt 1740

gtttttctgc actatgaaca acatagtcga ggcgctggag tccgtccttg ccggtattga 1800

tggtcgactt tccgtcctga tgtagctgga agtaaacact tccatcagtg ggagcggtgt 1860

tcacatcgtt gaagccccaa acgcggagga tgcgcaggcc agatgaggcc atgtggtcga 1920

agacgagatc gacgtcgctg ttgttcttca ggaacccgat ccagtacgca ttggagcctg 1980

ggaagtaacc tgcttcccca tcaatgacga actggatgcc cgaagtagta gcgaaagatc 2040

cggatgcgga tggagtagga gtaggagaag gtgtagttga aggagtgtac acaggtgttg 2100

acgcgtgagg gagcgcagtc ncagcgccag gctggccagg gaaagcaacg cctgcgagaa 2160

cttcatttct cagtaaagac tgttgagttt cggatacttg aaaaggaacg atgactgtta 2220

gtcggccgct gccgctgcgt cttattattt acatcctcct cgtcggcatc gtccagctgg 2280

accctgtgtc aggtcaccga tatgtatgaa accgaaccca gctccagcaa atcaagaatc 2340

aagactctat gaagatcaga acgatatctc ggaagtccgt gttcgactgg gaattaatag 2400
```

```
gagttgcatt gctgatctag gagtagcagc taatctatcc gactctatag gcgtttcagt 2460

tttccgtgtc agatctggca gcgggatgcc gatcgttgtt cgacttgaca tcttcacggg 2520

agacggatga ttcagtgtgc ttgtaccatg tcattgccgg ctgggcaaag accaatacct 2580

ggcaaggaga gtgattctga cactctgcag tggcgtacaa aatgaggtca tagtaactaa 2640

gctgataatg aagcccatta aaggttaagc tccgcgaaga tccgagcata tctcatgcga 2700

cgcgcatcga tccatggcat actgggacaa ttcgacgcag tatccatatc caacagtggt 2760

cagattctat gctaagcagg aactgaaggc gggaaggaga gagaggttca tttgtttggg 2820

ccaagtttct ccaatgcttg tgtttacgtg agggcttggc atctgtatgt atgcctcagg 2880

ccataaatct tctccacgag atcctgtttt gatgtctgtg acaagcact gaagaacggt 2940

ctatttctag ttatcaggca ctatctgcat ctgacaaaag acagttacgc taatattgac 3000

gcctcccgga gataatcagt gtttgcacgt agtctatgtc actgaaattt ccaagcgcaa 3060

ggcattacta tatacgttat tctacgcatt gatggccacg gattatggag ataccttgtc 3120

gtttgatgtt ttgtggtttc cctatcttct attggccaaa agaaaggttc atcagcgtag 3180

atataaagaa caataagatt tagaatgggc ttcagactac aatgacactc cacgttgcat 3240

cgaactgacg atctctcctt gtcgatacta ctctgagtat tccgtacagc aaactccgca 3300

aaaacagaag gtcagccggg gatcggaact ctactgactc cggtcagggc caggcagaga 3360

tttctgcctc agccttcaac tgagaaccgc ccagaaagag caacggccgg ctcggaagcg 3420

gaaaggaag gaatgacgtc gtcatatgat tcggctcgga aatagaatct tccacgcttt 3480

tcccacagtt tccaaggcca atgacgagcc ccgatcgtgg aacgcagcct gttacagcca 3540

acccaatcta gccaaggaat ccaaggaatc caaggaatcc acaaaatga tatgtggact 3600

gttcggtcgg ttggcatgca agcgacttac tgctcggcga ccgctacgtc gtcgagcctg 3660

agcccggtcg ggtggcgatt ctcattttca gtgccgagtt cggcagatcg tcggtatttc 3720

cggtcgcagc aggtcttgca gaacagccag aatacccggc aatgggtacg agcccaaaga 3780

aaagagcggt aatttgtgcg ttgcagagaa agagagaaaa acgctcagtt aagtgatgcc 3840

atgatgatat gaccccatac tgtactccgt tctccgtact ccgtccttga aatcctgggg 3900

aggctcaccg gtcaactttt caggcaagaa tcgcctctcc gtgttttctc tccgcgtcag 3960

tctccatctt ctccagtctc tccagtttaa acgacaggct cgtgcccgac ctggcatcac 4020
```

11858

```
gtcaccgcaa ctaatatctg gtatggttgt gtccagcgtt gatggagtat ggagtgggaa  4080

acgagtcttc ttgatccttc aagccagagc caaggccggc ccgtgatggc ttccatggca  4140

tgccgatttt tctgagttcg gccgcaggat cccacggcac cgggtgcctc caagtgcctt  4200

ggcccggaaa aggcgtcaca acttccgtgc ctgatgcggt ccggctgcgc caccaacgtc  4260

ggcttcggct tctgccaagt atcgctatcg ggctatctat gatgtatctc tatcggaagg  4320

gttttcgctc gagaataacg tagatttaca gcggtacagt gtcctgtacg acaggacatc  4380

tgttctcaag atgagccctg cccgagctga ctcggctctc gcggagttgt ccgtatgggg  4440

acgactcagg agtaggtgga ccctcgttac catgaggcct gcattgtctg gatgacagtc  4500

ctccatgccc tttcagaatt ctccacacga cccggacggg tgcaatcaga atcagcaccg  4560

cttacgttgg ttcatttcag ctactacact tataaagagg gaaaggcctg cgcacattcc  4620

cagaacccgg attccccata gttttctttt cttttaaatt aaacttggaa ccggacccgt  4680

gaagcaatac catggggggt tgagtctttt ttctacccat gggggtata ttaacccggg  4740

ttctggttcc cggccggaat aattacctca tatcaggggt gaatggggca ccccaaaccc  4800

gaacccgggg ggtgaaactc ctatacccccc caataatttt gggggccct ttatagggct  4860

tggttctctt ccttggtggg tttgtttttg ggaataccccc tgggcttatt tttggcttcc  4920

gggattgtcg aatttccctc ctaaagggga caccacccca ggtgatttat tttggcccct  4980

tcttcccgta ttgtgatcat tatgttgaac aggataattt acttagggg gacaccgaga  5040

aggggcccca agaaccaaac ccaagggccc tcgcgagaag gggcacccccc ctctcggcta  5100

gggtattaag ggggaatccc cacctactcc ttgttt                           5136


<210>     5781
<211>     5833
<212>     DNA
<213>     Aspergillus nidulans

<400>     5781

tgataaaccc tgcgtcggtt agtgctggct aaataagagt gtactttgac aagagtagga   60

ctcaccttttt gttaagaacg tcaacgtatc cgccgcgtta caagtgatgc ccccttccac  120

gggcttcacc catttccatt taccttcggg cgtcctgatc tgtagaccag ccacttgttg  180

cgagaagagc agtgtaaggc ttccaaaatc agtgtgtccg cccttcgtgt acacctgggc  240
```

11859

```
gcggtcccat tcttcctggc ttctgacatt gtaaatcata taccgtagat ggtcgtccga  300

gcgcttgtca tatgcatgcg cgttggcgag aaagttctct ggtaggtcca gaatgatgga  360

catgaggaca aagagtttac gcgctacctt gtcgaatagt tcgcgatgga agctggcaat  420

ctcttcatag ttctcgcgca cgatgcgatg acgcggcaga tgatcccact cggggattgc  480

cttagggatg ttcagctgga cagaaggata tcagccctat tccggttgtc tcagctttct  540

ggagaaaaat accatctcga tattatcctt aacccccgta tcaccaatcc accgctcatt  600

ctcgcggtat ccaaagtact cccccagggc aaagttgcat ggaaagactc tttttteetc  660

caacggctgc tcgaagaagg cattgccgaa gctgaattgt cgcaggacgc gctcgtcgtc  720

gatgccgtgg cccacaacaa cccagaatcc gaccctggtc aaagcatcat acagctgctt  780

tgcaagagct tctttgccac caggctcatt gaatcgcgat aggtcaatct tagccagcgg  840

tgcccagtcc aggtcctcgg tggtaggcgg gggacgagtc caaggcttaa ctgggacggg  900

atcgatagtc attatggtag acgccaatgc ggggttaact agccaactat cacgatctaa  960

tctagtatta ccgtagtgga ttgttgaatg gcttgcaatc gcagcaaagc tatgccgagc 1020

atggcgtctt tataccaccc agcttgcaca accccattat ccaactccgc acttgacgca 1080

aataataacg cgagtcatgt tagatggaga tgctctgttt atctgtgtta gaagcggggt 1140

tgcgtcgagt atcatttttg tctgggattg cgtgattttg attccaacag gattaacaag 1200

ccttgtcttg ccaaataaga tgcagcaact ctctggccca agaactcaca tagtctcagc 1260

ctttgctgtt ccttgattag tatttcgctt gctctctgac cacggtcaat ctcctgattt 1320

tctctgcagc taccgtgtag ggtatctatc ctgatagcat accgacctgc aaatattgag 1380

actgacatgc caagcagcat gatagagcga gcttcagaca caatagctga gaagatgagc 1440

aatttgataa tcggcgatag ctgtcagaac cttggcagct aacgccgacg gtgatctgta 1500

ggtagcacat atgaagacaa tactccaatg tcgtgatagc ctccataatg gtatcagcgc 1560

tagttcaaag tccagatggc tgtttgcaga gataacccac ggcttattta tctatataag 1620

ctgggtatcg ttagcattct aggggtttcc cgagtgagag cacggagtca agatgtcttc 1680

ttcaatatcc gaaacagcgc ctaagaaagg ccagtccaaa atcactacta cctcttcaac 1740

cacttcgtct tcgctttaca ttcccaagat ttcaggacac cacactgcca agcagtatga 1800

tgctgagttt gagaaacgtg tgatacgtaa gatcgacttt tggctcgtgg gcttctactc 1860
```

11860

cttcgtctac attttccggg tgatcgactc aggtactcac cgttttttaag ctatttgccc 1920

atacaagatt attaataacg tctaggtaac tacgcaaatg cagcgatcat caacctcgaa 1980

gaaggcaacg gcatcaaggc tgagctcgac ttttctccct cgcagtggtc ctggtcccag 2040

tctatcttta gctatagtta catgctgttc gaaccgacca acaccattct cttaaagaag 2100

atcacaccct caaagtggat gtttattata attctgacct ggggaatctg cgccacgtct 2160

tcaggcgcag cgcataattt cccagggatg atggtggtga gatttgctat aggtctggca 2220

gaggctggtt tttctaccgt aaaactgcag ttacagagct tttctaacaa aaataggctt 2280

ctacccatcg gttctatatc acatggcatt ttggtataag ccatccgaga tgccatggcg 2340

cgtcgcgttc ttctactctc ttgggcaatt gagcagtgcg ttgagtggtt tgctagcgta 2400

cgcgatcagc tttatgaatc gccttggcgg gctatctgga tggcggtggt tggttatcct 2460

tgaagggatc cctgcaatca ttctggcctt cgtagcactc tgggctccag actaccctga 2520

gacagcaaag atgctgacac ctgaagagag ggaatgggtg gccaatcgac tgttgaacac 2580

ttctccaagg ggaaaagatc gcagctggag ctggcagaat ataaaacagc tcttccgcac 2640

ttcgacctta tatacattct caatatactg gattgggcat ggcattggtg ggtttgggat 2700

caattatgcc ctgcccacag atatttatga gttgggtttt acgaccactg ccaaatcgca 2760

actgatgaac attgtaggtt tcagctcctc ctgtcaagaa gcttcactga agataagcgg 2820

cccagcctcc gtacgtagcc tgcttcttgt tcctgaacac agtagggcac tgcctgcata 2880

aaaagtggat tcgaccatgg acgactgcgg aggcgagtaa acaaacctat ctatatgcat 2940

ttttccctcc ccaggttcca ctaacaaacc ctacagtcga gattaccaat aatagtctgc 3000

tacattatcc tgataaacgt ctctaaaccg gttgtgaagt atattgcgct gatcgtcgca 3060

accgcctgcg ccggctccgc gtaccccgtc atctggccag agcgaatccg cgccctagag 3120

gggacagtcg ccgcgggcat cggcattgga ttgacaaatg cgatggccca gttcagcggt 3180

atctgcggac cgcacgtgta taattcacgt tttggcccaa cctaccgtgt ttcctatatc 3240

atctgtttga tctttctgtg tatagccatc actgggattc tgtttagttg ggtcttagtg 3300

cggaggaatg acaaaagaaa gaataaaaga gttgtctctg gtactttgga ggcaggagag 3360

tcccccgttc gtggagaggg gggtgacagc aaaaagggta cgagtgcagg agggtgaggt 3420

ttagggcttc tcttgggcat tccggcctgg aggtgttgac acttacgatc gacgaatcat 3480

11861

```
tgtatgatac aacagcccaa taaaactcca aggagcacct tacattgatc agattaaaac 3540

ggagctctac ttaacaacgg cgaatccttg cctatcgcat atatgtagaa cgatcataac 3600

aggcgtatcc caatcgcata aggtgaccac agtgccagac caatcataac catcgccctg 3660

gaagtctgga ttgtctgatc ataacctgta ctctacgtcc tgggccaatt tgaaatgatg 3720

ctgattgcta ggtatgattt ttccagtcct caaaatcaac gaattaaacg cctttccatg 3780

tcctccgacc cgtggtctgg gtgtacgtga gatatttgtt ggagtcagca ccagtctctc 3840

ctgggcttac tttggcctct tagcactgca atggaggatc ttcctcaatg ccttaaccca 3900

tgttatgccg tgctatggcc gccttgccag ccatcctagg gtcggagcag gactctgcag 3960

aaaagcccag cccatgataa gtctgcagct ctggataaat ctactcatga agcactgcgt 4020

ggagacctgt gtttgcatgg ctggacaagc tggcttattt catcgagcat cagatcatag 4080

ctctggtagc tagtagaagt attgatgaca agaaaaggct cactgtattc tccgaccta 4140

cttttcgcct caaggctggg gctctgttat tggcgttgag ggttgcaaag aaaggaatcg 4200

gttttcctg ctaaataaaa gactgacaag aaatggcttc tatagtatgg cccgttaatt 4260

accagccccg tgacgctctt aatgttcagt gctattatat gcggactcct tccacaccca 4320

taatcattca tagccgtgat gaatgcccgg ctaattgtat actctacaac cgacttcctc 4380

gttccttgtc cctctgcccg caagccctgt gactcctctg ccttggcttc gtatctgtcg 4440

ggataacttc atcctcagtc tcagctgcat ccaaccgaca aaagcagctc gcacgaatag 4500

ggatatccgc cccttctagc gcttccctaa ggtccttctc aatctcgttt acctcctgga 4560

gcctccacat ccgcatcaaa cactccttgt acccgataag tgcccataca ttgcgcgggt 4620

gccgccttgg cctgatcagt gtggtatcga ggccgaggtc agcacggtac tccgctgctg 4680

cctgctctac atacccctgt tctagcagga gagcagcata cgcgtgacga gagggctgca 4740

tccatgccca gggttcgctg tacggaagtt gatcatcgag ctttgtggat cgccgcagtg 4800

tctgcatgcg tctttgtaat tttgctgccg gtaagcaatc tccccatcca gcatggccga 4860

tcccacagcc aacgtgtcca aggccttgct attatatgcc cgtcgggagg ctggaacaag 4920

ggccttgctc ttatggaaga ggaaccgctc acgttttgcc ttttcaatat tccccatcgc 4980

cgcatacgcc agccccttgg cataatgcgt cgtcgccgta gtgacgcaaa acagccgctg 5040

gttatgcggc aaatccatcc caataagctc cctccacatg ccaaaccgta tcataacatg 5100
```

11862

```
cactcttgtc gcaagaaaat tctccaccca atctgccaat ggcggggacc tgatactcaa 5160

cactccctcc cagctaggaa cactcttctc catccgcgcc accgcgttaa tggctgtctt 5220

ctgctgcccc gcaaacatcg ccgcatagat caaactatga aaattatgta gtctgtaaaa 5280

cgtatacaaa ttataccccc ttgtctcaga catggccaga taccgatcat cagcaagcgt 5340

tgctttatag ttactctcaa ttgacttttt ccagtcgccg accagaacat ccagatgcgt 5400

cggcatatga tggatatggc ccgcatccgg gacaaggtcg cggagtttgt ccgcgacgtc 5460

taatcccctg tctgagtcag gcgctggaga catttcgatg taatgaatat atagatgcag 5520

aaggccaggg tgtttatctg cgccttcttg caacaaagcc cgttctagga ccggtttcac 5580

tagcattgtg ggcgcatttt ttgccggcgc gcctgtagcc agattccaga gagcccatgg 5640

cgtaacgttc atgagcgcat cagcatagag aaccgcaata tcgatatcat gccaaaaac 5700

ttcataaact cgtcccatgg ccgccgcata ccgccgattt acagcgcttg gatccttcgg 5760

cggtcttccg ttctcgaaac gggattgcat tgcgaggatg acagcttttt ccacggcttc 5820

agccgtgtgc tgc                                                      5833
```

```
<210>      5782
<211>      3728
<212>      DNA
<213>      Aspergillus nidulans

<400>      5782
```

```
cattcaagtg catgtgcttt ggtaacgagc cgtaagcaca tgacctgatg aatgggctta   60

gtagatgatg tacttcgtat ctaccccgcg tgctccaggc tactaccgcg accgccacat  120

cggtcttctg ataagcttct ggcctttttaa cactctcgca agacaccctg ctaaaacatc  180

cagcaattcc cattatttca tcggcttcat atgcatcaag acccgaaaac gaagcaagcc  240

taagatgaac atcctccact cgacattatc cacctggcgt gaccgcctcg ccccgtctc  300

acgaacgtcc accttccgca ctaccggcca gatcacacct gaagaattcg tccttgccgg  360

cgactatctt gtttacaagt ttccatcctg gtcgtggggc gacgcctcat caccctcaaa  420

gcgagtctcg taccttcccc cgggtaagca gttcctggtg acgcgcgggg taccttgcca  480

ccgccgactg aacgagaatt cgccggtga tgcacatctc gacgatgaga tagtcaggga  540

cttttttatct gggggtgcgg gggattcaga tggaggcgat gataatgatg gatggttgag  600
```

```
gacgggtgga ggtggaaagc gccatgagag tacgattcgc gatgtgagga ccgttgatga  660

atcaggaaag gaggaggcag aagtggaaga agaagaggat attccggata tggaggatga  720

tgatgacgag gaagctatca tccgtgaacc tgcagggaca acgagcacta ctcagtacga  780

atttcgttat cgttttgtgg tgctggcaca ctgacaaaat gtaggcctac ccgaacctac  840

aacctataca tcacctactc aaacttctat cggacccctc gtctctacct atccggctac  900

ctgtcaccgt ctgagccgct gccgcccaag ctgatgatgg aggatatcgt tggcgactac  960

aaagataaga ccgtgacgct ggaggacttc ccttggttcg atgggagtct acaaatggca  1020

agcgtgcacc cgtgccgcca cgcctcagtc atgaagacgc tcctcgaccg tgccgacgct  1080

gccttgaagc ttcgccgcga aaagattaag caaacagctg cgtcgtcctc gccacaggaa  1140

aaagctaagc ttgcgcagcc agagagtgga cttgagggtc ttgtcgacga cattaagggt  1200

ctttcccttg gtgacgccca aaaacagtgt caggggcgata aggggcaggc gggcggagac  1260

gaatgggaag ttcttcagca tgatgaggaa gaggaggttg caattcgagt agaccagtat  1320

cttgtcgtgt tcttgaagtt cattgccagc gtgacgccag gtattgagca cgatttcacc  1380

atgggggtat gatatctgcg gtaaattgag atgcgttgct ttgtgtttaa ccatttcttg  1440

gagttcatgt tttcttgcct ggtctaggcg ttacggttat taggttgata aatgatcgat  1500

acgatcacaa agacagtatt gcgtttataa taaccacaca tttctattct tactcgctag  1560

gggccgatgt catgaatcgt gctgtttcca cctccgagtc atacaatatg ttggcatggc  1620

caagattcta catgtctgca gtgggaagat atcgcagtgg cctgatcaac ggcctcaccg  1680

cagcctcctg acaggcccac ggcatcctcc gaagtaattg cgagttcatc ccgcttcgtg  1740

atgattgtat cttggcaata gaaccatgtc tgggctcatc gttccataag ctataaaatc  1800

ttaggttccg gccttcacct tcacgcatct cgtcaccaac tcagctttcc gtccacgact  1860

caacaacacc tacacacaat cgcttcaaac tacaatcgat gccagaatct cccttttctgc  1920

tcttacccccc cgagctccgc ctccaaatct actcctacgt ccttgacatt ccgacccct  1980

acacaaccct aacgcaacat agcaaacctc tgatcgtgat aaacgacaca ggcaacaaat  2040

acactacgcg cgcaatttac cgctcgctgc acatctctcc aaattgggtc ggaatcagca  2100

agagtgaagg cccaaatgaa cgaagtaaaa cgctctctct cctatctgtc aaccgccaga  2160

tccacgcaga ggtcgaacac tttctctaca cttcacacac gctcttcttc ctcaatggct  2220
```


11864

```
ttgacctaga tcatctaggc gagttcctgg atacgctctc tgctacggcg agatcgtgca 2280

tccggtctat cgggttcgag gtttacttgt tcgtgcataa tactcccgga ccagtcaaac 2340

ggggtttccg gcagtacgag cgtgccgcga gagttgtcag agagaagctg ccgaatctga 2400

ggggcgtggt gttttacttt gacccgtggt ttttagcctg ttgtggagat gctggttttg 2460

ggccatggtg tgacgagaga agtgtgctgg ctacgggggt taggtatctg ctcaaagtgt 2520

tcggaggcat tgagcccagg gataaagaca acgacaagtt aagggctagg gtcgaaatgg 2580

atttgcactt tttgccgtca agtgcgacgt tcaaggttcc tgggttggag caagggcatg 2640

caaagagctt ggttaaggtg agctgatctg gggtagaggt gagttcgatt tgatgctctt 2700

ccatagatga acatatagct aacatcgaga aagcagtggt ctataccaag aacacaatgt 2760

gttgatactg atcgttgaac gcgacctcag gtacatccaa gttacactgc tgcctttgcg 2820

ggcaaagcta accactaact aggctgttcg caaccggctc catgacttgc ataaccagtg 2880

ccagtgatca aggaaattgg tgactttcac gagtactgtc acgggaaacg aaccgatccc 2940

tacctgattg tcttcattgg tggcaggcat aaagcaacga accatgattt cgagctcggc 3000

caaggcatcc acctatacta cgagaataat tctcaagcac aagcggggcg aaagaaacac 3060

cgaagatcaa gccgccggtc attcctgtgg ctgggttggg ggcgcacgag ctgcaggatg 3120

acgtttcgag caatgcggga aaaagccgcc aatatgtagg gagccgtgtg tggaagactt 3180

gaactcctcc gatccccgcg gtcccatcag tatgtcaagc ttatggatct ctgtcccgga 3240

aacttccttg gactggctta gtacacccgg cacggttcat gagacatgcg agaagccagg 3300

ctaggtgggg gttagttttg cagcgcgaga ttatcatgca ggatgacaaa acaatgatat 3360

agttgcgatg ctgaacaata tggtgccata cggggaattg tctaagatat tttgcaaaaa 3420

ccaagcttca aggagtccgc ctgcatagta ggcccatgga ttatcgtgtc aagtcacgct 3480

aaataagaga tgtgcgaagc tctggtgtta aatatcttgt gagcagaaat atacctacat 3540

aacgtcatgg aggagcaagt cagtgagggc cctcaccctt aggatgcgg aaacagattc 3600

ctgagaatca gagtgtgctc ggagtatgga ttattttcga gttgacggta tataatgcgc 3660

tgtataccct ctgcatcgtt tgctgcttct tactctgtcc agactggact ttggcacctg 3720

cgatttgt                                                      3728
```

```
<210>      5783
<211>      6032
<212>      DNA
<213>      Aspergillus nidulans

<400>      5783

acatgcagca ttagcagtcg cataatacta ctcactactg gtatcatgca ggcatgacca   60

aatggatact ctagacctct tttttgtaca attgagaatc tgatttcatt tgatcgggca  120

aaagggtata tggtaagttt tgcttgccac gattgccccg ttggggctta aggtttccca  180

gtgagtcatt atggagctgt ctaatgttta acgtcgaatc tcgaagttaa ttatgaagcc  240

atctagaagc gtcttagaag cgcctaaatg cgcctagaag cacctaaaag cacctaaaat  300

cgtgcaggag cttatcgcct cgatgatggc atgacatgac accttgctgg cgtcgattat  360

ttctcctagc agacggttac aacggacagc ttctcaggtc tcgtttatga ccaacctgag  420

gcctttgaat aataaacatg ctctgcgtga agactacaat ttctatgcca aaggccacgc  480

acgaccgaat cctcttcgcc gtcaccgatt ttctccaccc ttcccactcc tttgataccg  540

tcaacacccc tatctcatct ccatatctcg gtaccccaat gcattcgcga ctagaagata  600

agccgagccc atcgggcttc ttggcgctgg ctggcgcggg ttagactcgg ggccagcccg  660

ttctgtttgg ctgtgtttgg ctgactctgc ggggaaatac ggtcgatgct actctgaagg  720

acagctgact tggatttgga tctgcccatc catatctcca tcccatcctg cggtcgtatt  780

tattcttttt cttcctctcc tctacatcat gagctttcaa tgaatatcta cactcgcgag  840

cactatggcc gccgaaaaac caacacccgc cccctatggc aaccgtgacc ctgaagctgt  900

cccagagaca gaaacaaaag ctgggactct ccaggctctc gtcgaggccc gaactccctc  960

gattctagat atcagaacac tcagcgcggg ctgaaaacac ggcatgttca gcttatggcg 1020

ctgggaggga caattggttc gtgtgctttc accctcccac cttcctctta ccccgtccta 1080

ttggagtgac tcttctaaac cggggctcag gaaccggcct cttcgtcggg tccggacaag 1140

ccctcaacat cggcggacct ctctcgcttt tcctgggcta tgtctttatt tcaaccctcg 1200

tctactgcat cgtcacgggt atcgccgagg tgggcgcata cctacccgtt cacggaggca 1260

ccatgtctta ccacggcttt cggtacgtga gccgtagtct cggctttgcg atggggtatc 1320

tgtattggta cagcttgggt atcttggtcc cctacgaaat cgtcgccgcc tcgctagtga 1380

ttgattactg gccgaacggt gtgcctttgg ctgcttggat cactatcatg ctggttgtca 1440
```

```
ttgtggtctt gaattatatg cctgttggaa tatacggaga gaccgagttc tggtttgctg 1500

ggatcaagat catcaccctc atcgggctgt tactgttgag tttcatcctt ttctggggcg 1560

gcgggccgaa tcgacaacga ttgggattcc attactggaa ggatcctggg gcgatgaaca 1620

cgtacctcgt tacctcaaat gagaacacag gaaggttcat cgggttgtta cagtgcatcg 1680

tcaagtccgc catcgcattc atctttgccc cggaactcat catcgtcaca gctggagaga 1740

tggagtcgcc gagacggaac gtgcccaagg ctgggaggag atatatttat cgactcgtga 1800

tattctatct cctcggcgcc ctcgcgattg gcgtcatctg ctcgagtcag gaccaggcac 1860

tcctcacggg cgacacgaac aacgcctccg cgtccccatt cgttgcagca atccagaacg 1920

caggcatacc tgttctccgc cacattgtca acgcggcgat tctgacatca gcatggtcgg 1980

caggcaactc gttcctgtac atgtccagcc gtagcttgta cggtcttgct gtatcgggga 2040

acgcaccgag catattcaag tcgtgcaaca gatttggtgt tccatggctt gctgtcactg 2100

tgtctgcgct tttttctctc ctctcatacc tcgccgtttc ttccggcagc tacaccgtct 2160

tcaactggct tatcaacttc accaacacgt caggcttcat ctcctggatc tgctgctgca 2220

tcgtgtactt tcggtttaac gccgctatca aggctcaggg tgtggagaag ccttactcgt 2280

ctcgcctgca accctatgga atctgggtcg gattatcttt tgccattttt ctgctactga 2340

tcaacggctt cacatgtttc ttcccgcaaa attggtcagc agcgaacttc ttcacagcgt 2400

acatcggcat cccggcgttt gcgctgcttt atgtcggaca tcgcatctgg ttctggagcg 2460

acccgtgggc ttggaagagc accgaggtgg atttgcagac cgggctgcag gagatccttg 2520

cggctgagaa gccggcgagg ccgcgtgaca caatcgggag aaagctaatg gcgttggttg 2580

agtgatttgt catttgttga ccaaatcgtg ggatgaatat aataacgtac ttagatacct 2640

cagtatagta tgcgacatct gtatgaatca atgccgcaca gcctgcgctg gaccgttacg 2700

gatccatatc acgagctcac ctgtcagttt gatgctctcc gcgccgtacg gagattttga 2760

tccagaggtt aatggctggg aacaccttgc ctggctataa tggtttctcc atcagtcacc 2820

gcagcgccgt agcgagtagg tgaatacgct gcaagatctt cttgtgtaat gagcaacggg 2880

tggatcttct atgcctccag ctgttcgatc tactcggacc agcctgaaat gcccgggttc 2940

ctcccagacg aattgagccc ggtagtatcc ctgacattca ggctcctgaa gcctagttga 3000

tgggcactca agagcgggcg ggggatcgga atagagatga actgagttac tagccttctc 3060
```

11867

```
ttcgagacgc tgtgccagag acacggtgaa gaaacagctg gaacaattca ggtacataat 3120

tcccagttga gagtaggatt actgactatt acttggattg cattgagctc atgtctactt 3180

ggatgccctc tcgaataatg agcactactg ctagatgatc taactgccag gcctgcctcg 3240

attctgattg atggaagaaa tgttccttac gcattgacag atagagaggg caagacattg 3300

agctgagaat atctcctctt agacgaaatt ggtgctctaa aagcgatttg agcaatggat 3360

acagatgatc agcactaaat cacattgcta tgatagtacg agtttgtact aggtagacca 3420

gttgcgccag cacgatagac gctagggctt agatctatgc cagcctcgct cgcacctcct 3480

gcaccctctt acttgacgca tccaattcat cctgcgacaa ctctccgctc tccagcgcag 3540

cgtccaaggc agcaacaatg ctctcccct gggtgacatt cctccccgac gcaagaagca 3600

ggtccactcc agccttcttc gccaacagcg ccctgttgtt gtcgtcgcca aatgccccca 3660

acgaccctgc ctcaattgca tcagtaataa tcaccccatc atacccagt cgcccgcgca 3720

attcctcctg aatccagcgc gagctcatcc cagccggccg ctcggcgtcg agcgccgggt 3780

agatcgccca cgacggcatg atcatggcta ccccggcctg tatcacatca tgatacggta 3840

cctcatcaac tgtacggatt tcgtcaagcg atatatcgat cgtcactggt cgttcatccg 3900

tgttctcctc tgtcgcggct gcccccaagc cggggaaatg cttcgctgtc gcaaggacat 3960

tcgctccctg ctgattctcg acgaactgcg ccgcacagcc cgacaccact gtcgcattat 4020

tgctgtacga tcttccatag cgatccgtga aatcaccctc ctctcgataa acagccagga 4080

cgggcgccag gtttgcgttc atgttgtagc tcgtcagcgt ttccgctgcg cctgcgccca 4140

tctcaccagc tgccgcaaaa gggtccgatg agtcgccaac ttctcgcgct gtttgctctg 4200

gcgcgcccgg gagacgacgg atttgccctc cttcctggtc ggtcatgatc aggaggggtg 4260

tcccgttgta cgctgggctc tcgcggtaag tcgagaggaa ccgctcgatg gtctcaggga 4320

ggtcctcagt aacattctcg ccgaagatga tgaccccgcc gacttcacct gctctgatga 4380

gatcaaagag gtgctctggg ggcgtttcgc cagggtagga gaatatcaca tgctgcccaa 4440

tctgggcttt agacccggcc gcagcgagtc cgagcagggg ggcgagacag ctgttgtcc 4500

acttcatgtc tgttctattt gggtagaata ctatcctctg aggacgttca gggtgttgag 4560

ggcacagtgc ttgtcttata tgtctcatct gatctcttct ggagacgatc gtcgtcggat 4620

cgacaaacaa tatgacgggc gcagtgctgc gttatctcgc tacacgagac agcgcgttaa 4680
```

11868

```
tcttgtagcg acgatgttac cttgaaatcg gacgctcggg tcgtgttgct gatcatccat 4740

ggtggacttt tcgtattttc cgcttggact ggttactgta gtgagctgta accagccttt 4800

tggggttacc caaaggttag tttcgccttc ttcaattaat ctggcttcta gaatacgtaa 4860

acagaaaaat aaagcaagac accgtcattg aacgtgttaa cggtataatt gttcggcgat 4920

atcggtaggg ccaagtgggg acaggcacta cgcctccaat tcagttagcc aacctggcct 4980

tgagattcat ttgggagcta tacttgatca agcaatattt gacggagtgc catgcaaagg 5040

gggagtggga ggatcgcggc gatacccggc catgaatgta tgttatatgg gctttctaat 5100

cgaaggaagc gctaaatgtc accttacaaa ctatcaaatg tacggctaga aagacgtagc 5160

ccatgaccag ttaccctttg catggctgtc ctgatgagta cgacgcgttg gttctctgag 5220

tatacttgag cgtgtctcct aatcatcgct gcgtctgatg ggtggcgata acttgctctg 5280

tggagggacc tcaaaccgta tatagactct cgaacccgga cgcttctgcg tacagatgac 5340

ggttccgtgt ctctggcgcc ccgagactcc gtttaacatg gacgggcacg tcagttagtg 5400

ctgtcttgcc gctgcaggtg ccccattcgt agctcatcaa gagctcccat tgttcaactc 5460

aagcaacggt taccatttgg gggtgtgctt tttagcctgc accgcgacgt tctcacggca 5520

gcgccccgag tccatattat tccaggatct ggatctctgg atcgccagag gagaaactga 5580

agcgcatggt ggagcttccc gtagctcttc caatgagccg cccctagggt gattgacgag 5640

gcagctgagg aactctaaga taacggatgt gtagtgcata cacactgcgt agcactctat 5700

tcactgctct cgtcaatgat gtagttgcac gtaggccgtt agttaccttg gagtgtcctt 5760

cgcgtaccaa cgtccacaag cggccatcac ttgccattag aacaccggcg tgctggaact 5820

tgatgattcg gcatagccca tcccggttga aggacttaag atacctatcc catctggatt 5880

ttcaacagct cagagaccag aatggccaga aatatatagt cgagcgccaa agacctatcc 5940

tggcaagtct actgagccga gccataatgt ttgcgatctt tgagcatata gaaaagaaag 6000

gagaatttcc gatggtaatc ttcaagtact ct                            6032


<210>     5784
<211>     9559
<212>     DNA
<213>     Aspergillus nidulans

<400>     5784
```

```
agaggaagaa aaattatagg tatatagaat gatagataga caaaaaggga agagaagaaa    60

aagataggtg tgacaattag taggatgggg gagagaaaaa taaagaccat aaataacaac   120

tcttgacgcc cctaaaaaaa tcctatgttc cagaaaaagt ccagctccag ggcccccta   180

ttgggaccaa ttcgcggaaa aactgtccgt ccgggcagtc tatcccgtag gaaagtacct   240

aaaaaagctt tcggtgttgc atttccacga aaccgccgct attaattttg agggaaatgg   300

cttcaggctg gttaactcaa tacggcaacc cagtccaaaa ggtctcacaa aaaatccctt   360

ttgttcggga attcaaacgg ccgcagaata aaggtactgc agccaactcc ttgccaacca   420

acacaaaata gaactggccg atcctacacc agtggccaag aaaaagcctg aatgcagcaa   480

ctgcctgcga cactctgtta cctgtgacta taaaaatgct acaggagaca aagaggtgc   540

cgaactatgc cgtcagccat cagatgcatg tgattctgca cccgagcaac aggcggacga   600

ttcgtatacc tttatttcct ccaaccagac gcacttcaag cctccaaagc gacggcatgc   660

taggcgcaat gtcacaccaa tgcaggtgga gctgcagata ccggcaccag agccgtgtgc   720

tgctgtggca aacaaaccgt tcaacttctc agccactgac atggtgttat tccatcatct   780

catctcctcg aaagatctag gcggctcaaa tcgaatggca attagccaat tcacccgact   840

cggcttctcg ttccattacc tcttgcactt actgctcgca atttccagct tccatctcgc   900

gcgccacggg ggcgatgatc atctgagcca gatagcaggg cacagtggcg actatctcgc   960

cgaaggtgag cggcactatt ctctagctgt tggtgtagtt gctgcgcaga ttccgtcttt  1020

gggaaaagaa aatagtcttg tactttatag gcgcgcgctt ctcatctttc tgtgttcagt  1080

tgcaagggga ccgcagccgc tggagtactt ggcctt    cc  1140

tctggctctc ttcatgggcg taaggacagt cctggagact tgtaccgcga gctttgccat  1200

tgacgcctct ctgatgcatg ctgcggacca caaagagccg tcctcagacg gggagggcaa  1260

actcaacagt tgggcgagaa accccacagt cctcaatgaa tacagcagtg aactgtcaca  1320

gctcagccag atacttctca ctgtcccctc gaactgtgat ccgcaagct atcaccaggc  1380

atttgacac ctccagtgca tttatcagtc tttatacagc cccgattcta agttaaacga  1440

gctagacctc tggccgacga tctttggctg gctttatact ttaccaagcc cgttcctcac  1500

agcattgcaa tgcagagaat cagtttcact agttttgttt tccttctttc tcgtgctcct  1560

caaggaactc gactcagcat ggttccttcg cgactggccg gaacatatac tgattgggat  1620
```

11870

attgcacaac ctggagtctt cccaccagcc tttcattcgc tggccaatgg aggtcttgaa 1680

gtgcccctcg tattgaacac ctggcccgca tcacggtgat ggataaatat gcagccccac 1740

aaagttggat ttacctatgg agttggtttg cgaaatagct tctgtcaaga cccggtctga 1800

cagtaaccac agctgcttct ccctgaagag catcgctttt ttaagacccc gaactcatgt 1860

tgcccccttt tcaacaacgg gcttatgctg ctattatgac gttataattg gaaaacaaca 1920

caaatccaga tgggccgtgc tatgtcctag gcggcggcga agcgacattc tcggaaccag 1980

aaaaagtgaa tgccctggga ttccagtgta ttccggctgt ccgatttctc gccgtgcaag 2040

ttaggatgaa ctggggctct atgagattgc tggtcttctg aatgccggtc ttctaaatgc 2100

caggggctga tgctgaactg ctacattagc tgggaccatg tcagtctgcc tgctttgctt 2160

acgcatacct gcctgtccca atattagctt tatcgcggga gccatgggtg acgcggcggg 2220

ggaagcagag gtataatggc attgttaccc atgttgcttc aatcaagctt cgtcggtttg 2280

ctggtaggtt ctacaactca caactcattc aaacgcatac tgacccactc tagagcattc 2340

caatttgcag cctatcttgg ctcgctaccc attcgaaaca tacagtcttg aaaattcttg 2400

cgagcgggca tacgaagatc atacgatcct tgtcacgtgt aacccagcgt aaagtcctgt 2460

gcaggacgat ccggatatat tatacggctg gtgacaagtt tgggcgacga actacgcctt 2520

aaactataga tccgaaacac gattcaggaa actggattat gatggactcg gttgattggc 2580

ggattgccag accgtagcgt ctttcgtcat agaacgaccc caccacgtga caggaacgaa 2640

accggggctt gatgtcactt aatcaaatct cgaccctcga tggccacgat cttccgttat 2700

aaacccaacc tagcactaac taccctcatg gttggatttc taagcgatag tattgcatga 2760

tgtcaatgtt tcaagcaggc gaaccagcct cttgcattac ttatcatcag tacggccagc 2820

gttgcaccgg gaatgccccg tgccgcaact gtcgacagcg catcaacgag catgggccgc 2880

aagttgacgg tgaatcaggc gaagacgact accacaagaa gctgctgacc gatatctttc 2940

gaaccattca gtcgactgac gaagcagggt cccagccact actcgatttg atccgcaacg 3000

gggccacatt ccccgaggta cggtgctggc tggaccagac cttaaggtgg ggcccgatgc 3060

cgaaccaagc ctcgaccacg gatgtcagag actcgaagct gcgcgcttga tatgatgtgg 3120

agagcggcgc gcccccattt cggtcaaagg ttatggatat ccattacctg tgtgattccg 3180

cgcccgtaaa agtgcccgcg aagccgtgga cgacagtaac agatgatgac ggattggtgt 3240

11871

```
cgcatttggt ttcgctgtat tttacttggg actatccatt ttacgccttt gtcgatcccg 3300

ccattctaat taggcacatg cgcgagggga acatgcagag tgatttctgt agcccatttc 3360

tcgtcaatgc gcttcttgca aatgcttgtg tatgtcttgg gcatgcaagc aatggattgg 3420

aaccaggcta atgaaatcca gcattattcg cactactccg aggcttatgc ggtaccaggc 3480

gacgtcaaga cgaaagggac ggattttcta gcggaggctg agaggcatct gcagaataat 3540

cgctttgaaa aaggatcggt cgtccgactg gcatctatac aagccacact gctgctatat 3600

gaaaggtagg ctcggcccag cagttgtggg tttgttcctg tctgtgactg atggtttcga 3660

caggtattca atggtagggg acgatgatca tgggtatatt atgctcaacc aggcggtcga 3720

gatggcagag gcgctgggga taatcaacag cccgcagctc gatctgaaca actcgcaaat 3780

gtcggaagag atgatcagat cggtccagca aacggcatgg ggtttgtttc agatcgatac 3840

gattgtgcac accaatttcc tgcgaaaaag tgctgtaaag gacgtcagca ttccacggct 3900

tgaccgtgag acctcaaaac cttcggacaa atgggtggcg tatccattga acaagcctga 3960

ccgaccatcg tggctgagtc aggcatttga tgaagcatgc aagctgtctt acatcgcaag 4020

ggacatgtct tccacgctca tccccaaagc cgatgaccct gcggggaaca cggctgaaca 4080

gaaatgggag ctctacaata agctacggca ctgggaggaa aacctgccgg ccaccttcag 4140

tctggccgag aggccggcgc cgcatatcat cctgctacgg tttgtacagc gataattctc 4200

cgtgaggaaa agaactgacc ggttgtctag gatgcggtat catgccctat tgataaatct 4260

atattgcgac tggttcgaag gcaagccacc atttaacgcc atcacgggcg aggtaaacca 4320

agaaccttcg acgcaggtcg ccgacgccca ggccctggat attgcgctcg cctcagcccg 4380

tgagattgcc actctgaccc gactacataa agccgagtat ggaatggaac gcgcccacca 4440

attcgccatg tacgccatcc tgctcgccct cttcaccttt ctcgaacaaa actcatttaa 4500

cgtcctcgac cacgacttcc ttttactgac cagtacattt tcaatcattg cctcccgatc 4560

ccaggtcggc atgcatctat tccacatctt tcgacattca gtgaaattcc ggctgcagtg 4620

cggccaatgg gagagctcgg tggatatgcc gcccgagctg aatgagctgt tcttcaagaa 4680

tacatcgccc gagattccag accggtggaa ccattacgca gaagggctgc agaaactggc 4740

tgataacggg gagtacatcg gcagtctgga cgggcgatgg cagtcacatg ccgcatccgg 4800

catcaatgat atgctgcgaa agtacgagac cttgagcgtt gggagggtgg acgagctgac 4860
```

11872

ttggaaggac cagtcggctg gctttgggtt ctcgccgtca ccggcatgag aatcttctgt 4920

acataggcag taatgaccaa caccttcctg tctacttcgt atactctccc agattaggta 4980

taccccggta ttcgcacccc gtattccgtt tcccccagta aatactctta atacgccaag 5040

tatttgtcag ccaatcggct gccgctgatc gacatccttc gtggcagcgc taagccactc 5100

ttggcggccc tgtgttcttc tccaattccc ctcctcaaga atcctgtgat cgtgttcccc 5160

cgtcagctag ccagtctctc ccaccactct ggtaacctaa cacgcctgcc gcagattaat 5220

caaatcaatc aaatgtgacc attcatcctt tagacttata gcatggaaaa gcccaagagc 5280

atccgcatcg gctcaacaaa agtacgcact ggctgcatta cctgcaagta cgcttctccc 5340

tgcctgcttt agcctattct caccccgtc tcctaatcct ccctcagatc tcggcggatc 5400

aaatgcgacg aaggcaaacc aacctgccgc aactgtatcc gctccaagcg ctcctgcacc 5460

tacgccaaca atcatgatgg caaacccaat ctgcgcatcg tggtgtacac gccgcgagcg 5520

acattcgcgg ccaccagcgc cgaaaaacac agcctcgatt tcttcttagc ccagatgcgc 5580

actcgctttc cgatccattt ttctcagcgc gttctgcagg cggcgcatcg cgaggatgtc 5640

cttgcgcacg cgatcattgc tctcggagcg atgcagcagt gtttcgagta cgatgatgct 5700

agtgcgatcg gggcttggag tcctttggcg acattttcga tgcagcatta cggcagggca 5760

ttacggttat tgcaggagcg tgtgaatgag gctttcattc tacaccctcg tacaaaagga 5820

cgggggagag cggctggcgc tgagactgga gccggggctg gtgcggagcc ggatttgatt 5880

ctcatctcat gcattttttt tgcctgcttc gagtgtctac ggggctcgac gcaggcggct 5940

attgtccata tgcgctctgg gctgaacctg ctacgggagt acgagcggga ccccagaaca 6000

gggtcaataa tccccaaacg cacgatgcgt tcgctcttca cacgccttga taaccagctt 6060

attgagatgc gcggaagtag tctgagcatg gcctcgtcgg atgataacct cgaggtcgta 6120

gcgcgcgatc ctttgccaga agatgatgtg catgattcac taaatgcctt atggaaccat 6180

attttacacg gaatgctcga ctcggcacgc gccttagcga aggggaggc gcctagccct 6240

tccatctcga cgcccaggc ggatgtgcgg gaaaacatga agcagctcca tcataccttt 6300

actcgtctct gcatctcctc aacatcacca tcatcaccgc cgccaccaga gggggtcgac 6360

tacggccaag accccgacat cctccgcatc tggttcctgc tgtcacctat gcttttgaca 6420

agcaacacct gggacccggc ggatgcatgg ggcccacaca acgacaactt cgcgcgcatc 6480

11873

```
gtcgccatcg ccgaagccta tctcgcccga tgtgctgcag caaacccatc ccgaagacgg 6540

actttcgcat tttcgctggg tattgttccg cctctcacac ttaccgcgac acgatcgcgt 6600

gatccgcgcg tacagcagaa agcactgtac ttgctaagca tatgtaatcg ccgcgaaggg 6660

atctgggact ccaaggtcag cgtacagttt gcgctgaaga cgattgaaat ggatcaggaa 6720

gtgcgggacc aaccgactga ggagcaggcg cgacaagac tgaagaatcg ggctgccgcg 6780.

tttgatgata tccttgttga cgatgacgat gagcggttag ttaagcatga gccggaggag 6840

gatgatggat agtgttagac gtgacaaggt ggttatagac aggggcata ttgaaggagt 6900

gcgatttttt tatgcgcaaa cacatacccg ggttttggga gtttctgaga taaacggcat 6960

gatatggtcc taatgacacc acatttgttt ataaacaaat ttgcagagaa tgtactcagt 7020

acctgagcat ttatggtgga tttgtcttat attggagatc gaaggttgaa cctcttttgt 7080

ataccagcca tcctcaaaac agtgttcgac ggtcacagat gaaatgaaac ctcaaccagc 7140

acatcaatct ttgtatgtat gaggctggtg ggattgaaga acctggacat gcttatgatc 7200

cgtgcgttgg catgctttta atactgagcc ctaacttcga ggcatgggtg gttctcaaga 7260

tgtgcctcac atgatatctc aacattagcc aacaatagcc cactcaacta tggcggtttg 7320

gtgatgatca tagctaacag atgtttcaga gcatgctagg ctcagttgga gcggggccat 7380

ttcaggttag accggctcag cttgactgcc tctgcttccc aatctcactt ctgagtccct 7440

ttcgctctca cactacgcag actccagctc aagtctatca tgcttcgcta gacagaacgt 7500

cttatatcct gaaaagctgc tattctaacc agaagacttc ggttagaaga cttcatgatc 7560

ggatggatct gccctcgccc tcgaatacgc gcagagaatc aaacctcgat gagccgtacg 7620

atgagactac atatgcgacc ggtcgtatcc atcaccaaga tatcgtattg cctgcctgcc 7680

cgccggtcaa ataggcacga acgcggctgc cgcttctaca gaacgaatgc gcgtcgcttt 7740

tccattgttg aaacacgcgc ttctgggcat tgctcgtgag gaccctagcg ataaggcggt 7800

tatttgtctc ggtgatgttg tcgtgggcca gtcagatgca caatacgggg aatcgtacaa 7860

aatgatgtgg aaagacgctc cctggcggat tccagagatg ggtgctgaaa ggatcgccac 7920

ccgacctact tgcagcagtt tcgaattcaa ggcaaatctg tcgcaaaga cagataagat 7980

tcgaaagggc atattgaatc tgctaccatc acccgacgac gtcctctttc aaccttcata 8040

tgaccatact gggggtgatg gttgtgctgg ttgtcaagac atattactct caccggtgat 8100
```

11874

```
ccgtgacgaa actacccgta tcttgctacc gttgcttccg agaaccaggt tattaaagac 8160

agagtcagaa ggaataagag cagtagtgag ctagatggga ttcttggctt cgagatggaa 8220

gccgctgggt ggtcaacctg atgccgtgct gttattcggg gaatatgtga ctgcgccgat 8280

tcccacaaga acgcggtcat tcagccgttt gctgctgtac cgccgcctct gctaggaaaa 8340

tcctcttgta ccttccccgc gccttgtgcg tgaggctgga tgatcgacaa actccagcct 8400

gcttttaaa cagccttaac aaaacccaac ttgtcgcccc tgagcttggc catataccgc 8460

gagctatcta agcgataatg ccacctccag gtccatagac gcgggcagtg gagaaccgac 8520

gcgatgatac ggcttatagt acgctctgtc aggccgatag ttatacagcc aacgagacga 8580

ggtatgttca tggtccaagc ccgtagctct ctgtatagaa cgctttccgc ccactaggtg 8640

tgctgcgggc agcaccttaa aatcacatgc atggctggct tgtgggtatt gaataatcat 8700

ggcttttat tcctttatac ttggccatac cccgtctact gttgtcccct tacaaggcta 8760

cccagcaagt acccagtcat gaacccaata tccattttgt gactctttat atacatcata 8820

gcatctatcg ctgccacttt tctattcatc tctatgaagc aagctctatt ctccaaggcc 8880

acccttcatc ctcactgtcc gtccgcgttc tttttctgct cctcctcctg gacgagctct 8940

tcaatgtgag cgttcaacca gtaccccttg agtccgtctc tccccagccc cttcgctccc 9000

ttgataaacc ctttacattt ctcgcccgcc ccgcaggtac actggaacgg ctggtccatc 9060

tcccattcag agctcgggta gaagaacgtc aactgatcgc ccttcttcag aggacggttg 9120

tccacgacgc ggacttccat ctttcccatg tcgaaattga gcgtcgggtc gcaggagtgg 9180

ttgcagtaga cgaggtcgga attgagctcg atgtgcgcat cgcgcgacac ttggacggat 9240

gtgtacgctt tggtagccgg agtggcagtg gtgattttgg cgaacagcgc gcccgctggc 9300

agcgagacct cgctgattgc cgacgagcca aacgcctgcg cgctgcgtgg acgtggagga 9360

ggccgggtgt gtgggctggg ggtgggattt ggcgtccgct ttcccgggaa cggtggtggg 9420

ggtggctggt gttgggtctt gcacggcaat aggcattttg ggtgggttat atggtggcta 9480

tgtggtagat ggcacgaatt gggcttgatt ggcgcttgga atgagcctgg gtgaagaaga 9540

gaagagtatt gagacgacg                                              9559


<210>    5785
<211>    11351
```

<212>   DNA
<213>   Aspergillus nidulans

<400>   5785

aaccgcctcc tcaatctatc tgtggttccg ccaaacccgc gttaaagtgc ctcttccgtg   60

gctgtccacg tcctgatgtc ttgcctgcaa ttggagggaa caagaaagga agcggcaatg   120

gccaagactg cgctgccaca gcgaaagagt ccctcgtgat tatgaaacgt attgatggcc   180

tggaatatct ccttttcatg gatccaccaa tgggtaagaa ttgcctgtcg ttcttcctat   240

atcggacaat agatataaga ggccgcgaga acccttcgat cgacacgttg cgcaatcagc   300

tcgtcacacc attactatca gtttcatcgt cagtcatgtt gtccaagctc gctctagcat   360

ctaccctgat ccctgctgct cttgcctgtc tgggttatga aggggggtgtt ccgacaccta   420

ccgcctcata ctccaacagt gccccgatcg agatcgctgc aggccagacc tttgatgccg   480

gctgggcccg gtacgaccgc ggatctggcg cttgcaccga tggcgagggc ggtaacgacg   540

atgccgtctt catcctccgg tctggcgcta ccctgaagaa cgtcatcatc ggaaagaatc   600

agaaggaggg tgtccactgt gagggtccct gcaccctgga gttcgtctgg ttcgaggacg   660

tctgtgagga cgctatcact gtcgtacgtc tctgactctg tcccaaacac tggttttcgt   720

gtactgaccg ttggcaagcg aggtgactcg gcgggagacc atacatggat catcggtggt   780

ggtacgttcc tattcgcgaa agtgactact cgtttttctc tgaccatggc aatgaaaagg   840

cgcatatcac gcgtccgata agatagtgca gcacaacggg tgcggaacag tcaacgtgag   900

tctttctatt cttatatctt tattctttat cttctctctc ttcttcatag agggatgccg   960

cacttactga ccattatctt aagatcatca acttctacgc cgaggactac ggcaaggtct   1020

accgctcctg cggtaactgc agctcccagt gcaagcgcaa cgtctacatt gagggcgtga   1080

ccgcgtacga cggcggcgat atctgcggca tcaactcgaa ctatggcgat acctgtactc   1140

tgaacaacgt ctgcactgac gccgaccacc cctgtgtgct ctacgaggga tgcgccggcg   1200

gttgcgagcc cgagaaggtc ggctactgct ccggttaagt aacctagtga gcaccaaaac   1260

cacgaggtgg aaacgtggaa acggaaccgt caaggctgag acaatggatg cggggagact   1320

gagacttggt tgtcaccatg tgattgtaaa taacagtact cgctaacgct cctgctgctg   1380

cggccaaaaa ctggtggaga atccggcgaa ataacaattc attccttatt ccaatgaata   1440

gctgaacctt gggagctagc ttcagtggtt ggtgcgtgat agcgtgatag aactgggcta   1500

```
tatagcctgg cagccaccca tgcttaagac acctgcaacg ccactgcgtc gcgctaatgt    1560

aagtcgtgct ccattaggag gggattcgcg gcgggcagtg atcggcagca gggaccgcga    1620

atctgagagc gaagtcaaga tggggaagca gatggggttg ctctgtaatc caagcgatat    1680

ccaaacctgg cggctaggcg aagcgaaagt tattctgggg tatggccagt atacaatgca    1740

atgaccatat actttgaaat ccctcaacaa ccccagcttc agcagtgctt taaagttgat    1800

gtactcagtc gtaggtattg accccacggg cacgggaact aaatgataga atgatctgcc    1860

cgaaccagac ttccaaatca cgacgatatc tctccaaagc ttccagagat actaggcgtt    1920

caatttgggt caagcggtga agcagggtcc ttgcaccggc agaactgcct atttattctg    1980

aagggtgcgg aagacatgtt gcttgtttga ttatggtcaa tatgatgatg gctgatgacg    2040

cctcaagcat aagatgtggt ctttctagcg atcgacagcg accaaagcaa ggtgcacttt    2100

acctatcgcg gggtgcagtg acaaaggagg cctgcttatc tcttggcttt gcgagatcaa    2160

gtcacccatg acgtccgagt ccaacaataa cgagggaaat cccggtgatc tctcctgctc    2220

tatacgctgc atccactttg tcatgggatg agcgatgtga ctgttctggt tccggttgtg    2280

gtcgtagttt tggttgtggg tgatggcgag tcatctgcca ctaagacgcc attccgcgac    2340

tttctcctca ccgtttattg tctctcacct cccgactctt caaccttctc tctctttcaa    2400

cgtacccatc cgcctttgtg ctctcctttt cgttcttgtt gcttttacgg tattataata    2460

tattttgctt tcttgtcttc cttgttcccg ccttactaca agagtacata agggaccagg    2520

ggtcgtcgtg atcgggtacc gtggtagctg gagctagact caatattggg cctgaaccaa    2580

cctaacccac atctttcctc ccagccttcc cagtctgcaa ggggatcatg ttggtcggtg    2640

agtaatcata gcaggcattt aattccgatg cagctgacaa gctccagacc accagaaaca    2700

ttaaggggaa acgtcttcat catgccccga tcgattccgt cctatttcac ttccgctcca    2760

ccggcggaag agcaccacga cccggagaat gtcagcccag gcccaagact taacccacga    2820

accgctccgc cgtccccgtc cgtcatgcgg agaacctaca gccatctatc agaatcacat    2880

actgcctacc agtctttgga gccgccctta gaggctggtg agaccaccag ccttttgggc    2940

aaggcgaagg aaggggggctc tggccggatg gagccgcaac ggtcctatac tactttttct    3000

gcatcctctg ggcctgaatc gggattcagg tatacgctcc tggggagtag tctgcgccgg    3060

tcgcgtcacc atagccgggc gaactcggta catcagcggt tcagtcggcg ggccagcatg    3120
```

11877

```
gatgaggttc cggttgagag cacggctgct tcgattaaag atgctatgac ctcgtcgttc  3180

atggacgacc ggttgtggta tgaccagttc acctcgacgg actgggtgca tgatagtgtg  3240

gctgacgggg tgcggctacg ggagctgcga cggaggaagg atatacgcgg tcgactttg   3300

gccttgtttg atggcgcgca gggctggatt ctggttgcgt tgattggatg catcgttgcg  3360

gcgattgcat actttgtcga tatcacagag gagtacgttt ttgggttgaa gaatgggatt  3420

tgcacgactg gttggttgcg aagtcgggag acttgctgcg cggatgagga agagtgtcct  3480

gcttggcggt cgtggtcgga gatgatgaac caccatggtg gagggagtgt ttcggttgat  3540

ttcgggatct acgtcttgtg gtcggtgatt cttgccgcta tctcttgtct tttgacgtta  3600

ctcaccaaga cggtcgtccc gtcatcggta tcgctgacta cgttggacga gaacctgggt  3660

gccaacggct ccagacaagc caccgaagct gatggctcgc ccgcgtcggt gtccggctcg  3720

tctccatatc cgccgctgcc gctgcgtcct gacatggtct actattcggc tgctggtagc  3780

ggtgtcgccg aggtaaaggt tatcaatagc ggctttgtcc tgcacggtta ccttggcttt  3840

aagacgctag ttatcaagac attggctcta atcttcagtg tggcctccgg tctcagtctc  3900

ggaaaggagg gcccgtacgt ccatatcgcg acttgcgttg gaaacatagc ctgccggctg  3960

tttagtaagt acaatctcaa cgatggcaaa cgacgtgagg tcctcagtgc cagtgctgcc  4020

agtggtgtgg ccgtagcatt tggagcaccg atcggcggtg ttctatttag cctcgaggaa  4080

gtcagctact actttccgcc aaagaccctc ttccggacat tcttctgctg tattgccgct  4140

gctctatcgc tcaagttctt caacccgtac ggcactggca aaatagtttt gttcgaagtc  4200

cggtatcttg gcgattggga gatctttgag ctggccattt tcatgttttt gggtgttctt  4260

gggggcgcag caggtgctct cttcatcaag gcttcaagca tatgggctaa gtcgttccgt  4320

cgcatccccg tcatcaagcg ctggccactc tttgaggttg gcctcgtagc attggtgact  4380

ggactgatca gcttctggaa cccttacacg aaactgccgg taacagagct gctgttccaa  4440

ttagccagtc cgtgcgagca ctcaacttca gacggactgt gcccccatcc ggaaggtatt  4500

ggcgaggtta tccgcgcact taccatagca ttcgtgatca aaagcttttt gacaatcgtc  4560

acattcggca ttaaggtccc tgccggtatt tatgtcccct caatggtagt cggtggtctt  4620

atgggccgca ttgttggcca tgtgacccag tatctggcgc tgcagtaccc caacttcttc  4680

ctcttcggat cctcgtgcgc cgctggtaca ggcatggaat cttgtgtaac acctggagtt  4740
```

11878

```
tacgccatgg ttgctgcagg tgcgaccatg tgtggagtca cgcgcttatc cgtcaccctt    4800

gctgttatct tgttcgagtt aaccggcagc ctggaccacg tcttgccatt ttcgttggct    4860

gttctttgcg caaagtggac tgccgacgcc attgagccgc atagtatcta tgacttccta    4920

actgaaatga attcctaccc cttcctcgac aacaaactcc agactgtctc cgacgccgtg    4980

ctcggcgaca tagtgcgccc aatccgccgc agccgactca ttgatattac tgagacaccg    5040

ctcgtcccgg cacgcgagct ccgctccaag ctccagcatc tccttatggc aggcgagcta    5100

gatagtggtc ttccgatcct ccgcgacggt gtcttaatag ggcttatccc ggcgccggac    5160

ctggagtatg ccctcgataa ccttgaagat gaggatcgaa catcttgtct catggctact    5220

gatacctcgt ctgttgtatc cgacacggac gatgaggata cgctgcaagt ggatttcacg    5280

aagtatatag atccggtaag atccccttac cctctttttt ctgtgatata tgctaatatt    5340

tgtttattat aggcgcccct tgccctggac atccactccc ccatagatct tgtttaccaa    5400

tgcttcgtca aacttggctt gcgctatctc tgcgttttgc atgatgggca gtatgcggga    5460

cttgtacaca aaaaggcttt tgtgaagttt atgaaagagc agcactagaa agactctaga    5520

ctccccggaa actgggtggg ttttgagcat cagtgcatac tataaccatc cctgacatac    5580

taccggttct caggtttctg ataaccaac cgacctcgat ttcatattat tttttttgtc    5640

tgtgaaactg tttagatgtt tgtatattag cgttggcatt ctgttttgac tccctatggt    5700

tgtgccatgt ctgattgttc cccttcctt tggggtgcgt tgcttgtttg tcttttacag    5760

ttctctttgc atatgcatgt gcatgaccag cggttacata tacgatgaca tgaggcatat    5820

attggatttc tcaaccatac gccagggtat ctattcaatg ctgacacaac tactaaaagt    5880

ggcataatat gtagtatgcc gtcgtcgact agaccttctc atacccaacc atccgcactc    5940

tgacatcccc ttcctcagtc cactcgcctg taacctcctc accaacccac cctgttactt    6000

cagcagggct aaccttcctc catttcccac tgttaagttc ctccgcatca actgggaaaa    6060

aagtatcaca ttcgaaccca ctcccatcaa gtttctccac atccgtcatg acaatccgga    6120

tcgtccgctc gttttcggat ctcgagccca atttcaatga cgcattatag atctccgcac    6180

ccccgatcac gtaaatattc ccaacacctt cctcaccggc agcagcatta tcaagcctac    6240

tcagcgcctc ctcaagactc ctctccacaa acgccctgt gctcccctct ttcacagggg    6300

gcgcaacaac tgcagtcaca gcagccgcat tgactggctc ctcccccgaa ttcctaccct    6360
```

```
cagcctgatt ctgaggctgc tgtttggcct tcgcctccgc agcctccctc tccctctcca    6420

atttgctctc caaatcgatt ttcacgcgct ccgcaacgct tccatctgga tcccttgaaa    6480

tcaccacatt cagccgtttc ccgagtggac ggagtctcgg cgggatggag tcgtacgtct    6540

tgcggcccat gattagagcg ttcgtgcggg gtttattgga gatggatgga gatgtggagg    6600

gagggcgagc tgtgatgcgc gcgaagaaga acatgtcggc ttttatgcgt ggccacggaa    6660

gcgtcccatt tgcgccaata cctagccgga acccatggcc aggtgatggg cgagaaactg    6720

gtgtcgttgc gacgacaagg gtcagaggga gagggggagg tgttgttggc attgtagggc    6780

gattgcgtct aggggttgct gagagttttg aatccaatat ttggtggaca agtgagtatc    6840

gtagattctt gtcaaccctg tatttgttgt gcggaagcag tgggctgtga aattaggttc    6900

aaaagtgttg gtgctgttcc gatggaagct ggcggggagc agttttctta tcaaatgggc    6960

cgacatgcaa ggcggaggga gctatgctct acgcctaacc cttacctata gtagccttat    7020

gatatatggg ccagcatcaa ataaagaact ccagttagtc aaagaaaaga aggtatgttt    7080

gctttgatag tattttattc gggtatcatc atatccccag caatatatag caccaaaaca    7140

ccaacgcgcc aatcttcatg ctctagatcc atgagacaca taagaccaac gccaaactat    7200

cagaatcacc agacatgacc atgcataaac ctaaatggta tctgcgaatg ccgcagagga    7260

aaatcgtcaa gtcatttctt gggcgccttt aatattcccg catcctcaat gatcttctga    7320

atgacagcgg catcctgctc caatccctcg cggcgtttgg tctcggattc gtcttcgccc    7380

agtgtgtcaa gcttgccaaa tagccaagtc tccttcattg tacgggtgag tgagaggatg    7440

tcttccgcgg cgcggatctg ttttcgtcga ggagtggtat cagtatgcag tgatagacga    7500

attggcctgg tttaagagta ggagcgccaa taaatagcgc tagaataagg acgtaccagt    7560

gccgtagact cgacatctag ctgatatgtc tcgacggcag ttgtggtgtg cttgtgctt     7620

tcgacctggc aaaagcagaa ccagtcagcg gccataatta ccaaattacg caattccgat    7680

gccaataaag agagtgagaa cagcgcaccg tagcagtagc catgatattc tcgaaccgct    7740

gtagtaattg cgagatgtcg gtgtttatgc ggtctatta ttgagatacg taagcatcat     7800

ttccatctgt ccttcaagcc agattgcgcg tgtcttcgcg attcataaat tggacatact    7860

gtgcatgttc ttagacgtcg gttgtaggtc catcttgatt ttctggtttt tttaaaggct    7920

ttcttttgct ggtgagctga aggtgagatg gcggggtact cggcggcggt ggatttatgc    7980
```

11880

```
cggcataatg atatgattgt gagaacagat catgtacttc taagaataat ttggactgct   8040

ttgcttgcaa tagatgatca ggatcctatg ttcatttact tcgctaaaat gccctaacaa   8100

gtacaggtct gtatcgcagc ccggacgcct caacgccatg tatctgtatg ccggctagaa   8160

tcatcaccta acgacgaata gtatgccaaa gacggtagat cttgattgcc ggagcaagtt   8220

gttgacagtc caactatcgc acatacttcg acataaactt cttgtgaaag tcagaccgta   8280

gcaggtcgtt gacaaactcc tttcccctct tgtcctccgt tccgcgagct tggttcttaa   8340

aaacgacgtc gtcatcccat cgtcgcttta tgttaaagtc tgaagggttg agtagcggat   8400

tgcctcgcgc aatgtccacc tcccgttgtt cctcctcctt ggcggcgcgc tcgcgttcct   8460

gaccaagtaa gcatcatttg cttacgcatg atatggctct tgacatacct ctttttcttt   8520

ctgagctaag cgttcctttt tgattttctc aagctctcgc atgagctcgg cggcctcgtc   8580

ctcgtcatca ctgggcttgt tagctcgcaa cagagcactg gcaccatacc actaacctct   8640

cgtcctcgct gctatcttct tccgacgctt ccgaatctgc atctatctct ctcgtttcct   8700

ctaatatccg ccgccgcttt gcttccgggt cttcttctaa ttctccatct cctccattcg   8760

cagggggcc ttcaagctga cgcttgggag tgctttcggc agatgcttca ggaacgggag   8820

ctccattctt cttggcaaag tgagcggcct ctgcctggag cagctccgcg cgcaggtcgc   8880

gacgcgctgc ttcaccctcg gttccctggc cagattgact tgttccgtca ggatcaccca   8940

gataatacac aacacagtcg aagtgactca ccgaactttc aggtgagtat atgctgggag   9000

gaggcgttga tggtatgctg gaccgcggag ggcctctttc cctcgtgcct aaattctgtg   9060

agcggttgat ctgaaaggag gaagataggt cttacgggat caaaggtggg tctgtgagct   9120

gcggcatgtt agctagagtt cctgaaatat agggaagagg tgcataccgg tagtcatgat   9180

atgtagcgcg agtccagtga gtcaaagatg gttgcagttc gtgagattgc catgttgata   9240

aagcctcagg ctaacatatt tcgtcctcac cgccttcgaa acaagctctt tattggccgg   9300

aacatcaatg aaccgctttc atcaaatgac gctgccggac aggaaatttc ccaagcccgc   9360

tcgtctgtct tgacccctc atcggggccg agtccgcccg caagtatgaa caaagaagca   9420

ccgctctcaa ttgctgagcg cgactttatc ctcgatgctc tccgcgaggg tgtgaggctg   9480

gatggccgtg gggccgacca gctccgtccg ctcactctgt cgtttggtga agagtacggc   9540

catgtgaaag tgcagcttgg aaagacaagg tttgttttcc atcgcccgta tgttagcact   9600
```

11881

```
gctaactttc tcagccttgt cgttaggatc tccgccgaag ttgctaagcc ccacgatgat  9660

cggccgtttg acggcatctt caatattgcc atggagctta ctgcgatggg ctcgccccgc  9720

tgggagaacg gccggtatgg atgccgatat gtgtatatgg atggagctaa tgctttcgca  9780

atagacaagg agatttagaa acctacgtta cgaacgtgtt agatcgtgtt attcgccatt  9840

cgaacgcctt agatccgagt cactctgcat ccctgaaggc gtcagctgct ggacgatacg  9900

cgctgatgta cacataacgg actacgaccg caatctgatc gatgcatcgt gaaaggcgtc  9960

atggctggac tccaacatct ctgtcgtccc gacgctgtgg tcaagaacgg ccaagtgatc 10020

gtttccggac tggatgaaag agttcccgcg cccctgaaca tcgctcataa gcccctttcg 10080

gttacgtttc atacattcga cgacggaaag cttgctattc tggatgcgac gcggaaagaa 10140

gagcaggctt cgaaagcgga cgttgtgatt gggatgaaca atgccggaga tgtctgctac 10200

ctgtctaaat tccagggctc cccggtggat gccctggtgt ttatcacaaa gacctcgctc 10260

gcacttgaga aggtcaagta catcaacggc attattgaca aagctctgca ggctgatctt 10320

gcgaaacggt ctaagggtgg gctcgcggag caagccagag cagagaacga tcggccagtc 10380

gcataggcaa tctaagaacg cttctctacg agtgaattgt aatgtatgat agatgaatga 10440

atgcatgatc caaagtcaat agcagtattt ttgcatcaaa aaaatgaaag tcttccccgt 10500

ctgagatacg gattgactct tgacagcgtt atagatcagg ggagtttaat tttgatcaca 10560

aagagctctt ttctgctggt tgaggcattg taaggaatca aatcgcagag ttatatcttg 10620

aaacagtaat aagcgagtat gttacctaaa aatactaata taaattcttc ttgtgagagg 10680

cgccactaga tccttcttgt gaatcgcccg cgtcaagctc caggtcgaca aagatcaacg 10740

gggcttgagc accgccgcac gccaaaccca accagctgct agcgcatccc gaactctgct 10800

tcttaattct cacctccagg cattcaccat attaggcgag cgtttcttct tttgcatttt 10860

ttccgtttcg ctttactctg ggatcgctac ctcttctcca tctctcggtc gctttacata 10920

ttccacgtgg tgtaaactcc tttccagtct cccaccgggc caaacaaagc aaagcaccca 10980

ctcgaaatcg atgctccccc tgggccgcac caccacattg acggtgttag ccctcccga  11040

tcatcatggc cagcggtagg gctccaggtc gtcatcccgc cgctggccgg gatgatgacc 11100

tgctgcagct ggaggagtcg actcccatct acaacacggg acggcctccg ccggtaaacg 11160

acgaaagcct cttgcgacag tacaacattg acgactctga aaacgctcag ccccgtccgt 11220
```

ccgtttctta tgacaatttt gtcggtggga gggtgacacc acacgccggc gcccatgcga 11280

caggctccgc gcctccggtg catgccggag tgtacatgaa cgatccctac tccggacagg 11340

acgtatgccg t   11351

<210>   5786
<211>   3151
<212>   DNA
<213>   Aspergillus nidulans

<400>   5786

ggcacgtata cgctcatgat gcaccagcac atccatatgg gcgggatcct aaaaaagagt   60

ttctggtggt ttgacgggtt gtttccgtac atcacgaacc cgctgatggg ccatacctgg 120

aactcatatt actaccatca tgtcaagcac caccatgttg aaggaaatgg gccaggtgac 180

ctgtcttcga cgatccggta ccagcgcgat gaactgatcg actttctgtg ctatgtcggc 240

cgctttttct tcttcatctg ggccgagctg ccgctttact tctggcgcaa gggaaagttc 300

ggtatggcgg ccaaagctgc gttctgggaa ctaggaaact acctcgttgt ggcgctgctc 360

tggcattatg tcaattggag agcgacgtta tgtgtcttcg tcttgccgct tctgcagctg 420

cgtgtgggat tgatggtggg taaataaaga caacacgcct ttgtcgacga ggtcgatccg 480

aaattcgaaa ctttcggacg agtataactc ttattaatgt tcctgtacgc catctccccc 540

tccatccccc ctccgcgcgc tggattcctc ccgtcatttg aacatactaa tatagcttgc 600

cgcagagcaa ccgcttctgt tacaatgatg gttatcacac gtctcaccac cttaaccccc 660

gccgacactg gcgcgagcac ccggtttccc tcctgcagca gaaagaccgc tattccgccg 720

aacacgcgct cgtattccgc aacatcgact acatcatgat tacgaaccgt ttattgcaga 780

aagattataa gtatcttgcg aaatgcttgg tcccaatcgg aaatcaggta ggaatgacag 840

ttgatgagtt ggcaattatg ctgcgaaaga aaacgcgaag atttagtgct atggatatta 900

gatctaagtt ctagcacgaa atcgaaatcc tggcaatctg tttccgtttt catttgtttt 960

ttataatctt tagatatcgc tagcattccc gttcaatctt gatctcctct ttagattagc 1020

tagatagtcc ttgttttgag ttattctgta ttaagctcat atctgcagag taagttatgg 1080

tggaagaaat tgccacccaa catcaacatg accgaagctt acataggcta tacgtcattg 1140

caagggcctt atgaacaaaa tacgtatcct ttgctcccct ttggtacaat tgccttactt 1200

```
cttgcacata tcaacactta ccagcatgga tactccgcct gaaatactcc ctgcttgcga 1260

gctgttggga cgtggtatca ctctatttcc aggtattatt gatcttccgt ttatcgttta 1320

cagggacgag ctaattaagc atcaggatct aatttattcg actacctaga aattttaggg 1380

ggcgttgaga aggtccagct tctaaatttc aacctaaaca ataagccgac tacagttcct 1440

ggatcgaata agcaatatct agttccagag gatgtcttta ttcttcccgc gggaacagaa 1500

attatcgctg aacatttact tttgacaact ggagccgctt tagcgaatga gttggcaatc 1560

aatccatcaa tggcctatcg ttactttggt atatcggcgg acgtaacggg aaaattggct 1620

acagggtatc tttcaatgat agatatctgt ttggcctctg gagcatcggt gatctcaatt 1680

atactgtcca gtttgatatg caaagcctgg aaaggtgtat aacgccgac ttcatctggg 1740

cggcaagaag actcccttgc tgggacgaga atgatgcttc agcgcgagac gcgtttgcaa 1800

agttttcgc gacatggggc acacatgtta ccacaggttg ttgtcttgga gcgcgatacc 1860

agctccaagt cacaaggcct gacgcatctg acgaatcgaa aaagaacttc cacgaacata 1920

ttgaaacaga gtatagctct gtcctcggca ttaatggtgg gacaagagac acagctcaat 1980

acagagaata cttaggccga cgtgagagca aatgctctgt catgggtggg catccacagc 2040

taaagagaag cttgtcaaga gatccgacta actccaggct attcagtcag tggattagaa 2100

gtataggcgc aagtggaacg caagacgtta ttcacgtgtt ggctgacagc atttacaatt 2160

tcctcctcag gagccccaac ccggaacaca aggaaattgg ggacaagatt cagagagcct 2220

cgcggttcca ttcgaagttt attactgcca caggagtttt taaggtgaag ggcattggcg 2280

gcgcaacagg tcgtgtcagc tcttgcgagg ttcggggtgc tcctggcatc agcttacaag 2340

tgatcccccg tcgaggaact gcagcttcct ccctgtcaaa aatcaagttt gaagcacttc 2400

aattgtctgg tgatgagatt gagtgtgatg tcattatgag cgcaccgccc ctgacgccgg 2460

ttgaggtggt ccttgcatca tcgaaggaag agttatctca agacaatcct ttcgtgtttg 2520

acctgcagtt gcagctttat ccggaacatc tatcaggagc aataactgtg ggtctgggta 2580

acaagggtca tgaaggaaag gtcaccctgc caagtttgac tgcaataggc aattatgttg 2640

ctgaataagt gatctgtggc ctttttctat ttgccaaaca cagtttttaa acttcattat 2700

aagcggcctt ggtagacgat gattggcagc caagctccga ttgtcacatc atcacgacat 2760

gcattcaagt attttcccag tgactgcatg aggggagttc ttgtcagttt ccggccggta 2820
```

11884

```
taaaccccag ttatatcgac cctataattc aatccttgcc ccctcatact tatcttgtca 2880

tttctttttt ccttcggtag ttttccgttc ggattagttc actggcgcgg cgacctctga 2940

tatcccccctt acctccatac ctccctactt gcacatcaaa tcttctattg aacgcttctt 3000

actacaaaag gccgatatca agccgtataa gctcacatgg ccaagcctca ttgctcgtcg 3060

cggtccgggc tcctcgcact gcctcgtggg ggatcaggac agccagggta cggcactcaa 3120

tcgtcaagta acgttgtggg agacattgat g                                 3151


<210>      5787
<211>      4120
<212>      DNA
<213>      Aspergillus nidulans

<400>      5787

aagctagtac aggacgttat tgctcagttc gggcaaaact aagctttcat tgcaaatgcc   60

ggccggagtg ggtctttta cgttcttggg ggttctgtta acgactggga ggaggtcgtg   120

cagacagatt tgaacgggac attccactgc gcgaaggcgg taggaccgca ctttaagcag   180

cgtgggaagg ggtcccttgt tatcactgct agtatgagcg ggcacattgc caactacccg   240

caagagcaga ctagctacaa tgttgcgaag gcgggctgca ttcatatggc gcggtcgctg   300

gcgaacgagt ggagggactt tgcgcgcgtc aactctattt cgcccggtta tattgatacc   360

ggtctgagtg actttgtcga caaaaagacg caggatctgt ggctgagtat gattcctatg   420

gggcgccatg gtgatgcgaa ggagcttaag ggagcgtatg tttacctggt cagcgatgcg   480

agtacgtaca ccactggtgc ggatctggtt attgatggcg gttacacctg ccgataattg   540

gatttctacc tgtatttagt agatcagtac aagcctggtg cttggtgaat tggacttgga   600

tatgaatata atgtatcgac gtttatattg cgaaatctgg cattttcttg gtcatgcctc   660

accagtgtaa taagtctaat ataaggagta ttttaagatc acgagatgaa cttatatata   720

gcatctctct aactataaat gcagtccagt actttcctgg agggagaagg gggcgtggtt   780

tgaaggatca attgaacaca ccacataacc ttctatatca taccacacct tcagcatgac   840

ggctctggat aactagcaaa ccatccaccg gccaagcgta tggagggctt cacacactga   900

caaaaaacat acaacagctg ggattcgcat gtggtcaccc accatactac taaccagccg   960

gcgtgtggct taagtacggc tgagcggacg ggaagccctg ttttccacac cctatggtcg  1020
```

11885

tatgtgccag aatgatgttg gcaatggcct atatggaaca aatggccagg aaaaacacat 1080

gttatttgaa atagacctca cgccaataaa catattgggg agctgcagtt gcagtgataa 1140

ctttctgagc taagtaagct gtgcgtcgaa gctatcctcc ctagacttag tcttgttgag 1200

gagctgttag aaaacatacc cacctgtaac gcgttttcat gcggcaagct agctaccctc 1260

cctctgttac cacttgaatt cccgccaata ttccgtgctg ccataccgtg ttcagcacgg 1320

tgcatatact ctcgctccgt ctgacaaaag acccaccata tccacagtct ctgacatgtt 1380

gtttcaagtg atgcatggaa tgattggtgc tatatcttgc aactaagctt tttagtgtat 1440

ccagtcctgc tcctctgtcc gggcctaatg catatgtaat acgcgatgct agagagtctt 1500

gataagtaat aaatcatttg ttggctcgca gagagtctgt tgctcaggat gatatgatac 1560

tgaagtgcat tcgagggatt gttcggctcg agaaacaggg ctgatagggt taggcgccaa 1620

tgaaggaagc gaatcgagtt aagtatgtgc gagttgggtt cggatccaaa gagttggtta 1680

taagtgcacg ggtgtatata tcatcgtagg aagctccagg aggaagatcg gacctgggac 1740

tgcaggtgat cagtggtaac tgtgttactc agctgcggcg tgagatgcgc gagtctcggc 1800

caagtttcgt attcacgaca tgctcctgcg gcgggctgtg gattgtgata gtccagtatg 1860

ttgccccagt tctacccaat catggtgcct tggcaatatg tacgaggtaa cctccgtatc 1920

atcataaaat tggaggggcc accatgccat tgtatcgaca tggatgcacc tcctctatac 1980

gaagcactca gggtggcaga ggcagcagtg atacgtgaat tatacacatt tggcgtcgat 2040

tgtgtaagtt gttgattgaa ttgataatac gtgcggcctt tctacgcttg taagcaaagc 2100

cttgtgaaga agaggagcct agggaatcga gttgagcggg cccaagggc gagagtagga 2160

cctacccacc acttcacttt gccgagatat tggcaagagt ggcaacgaca ggccacagga 2220

ggtgattggc cggccgagaa agctttgacc ttttcgagct cgtgttgtta ttcggctggc 2280

tggggaacgt cctggctcta ttctgcgaac gggggtagtg gcttgaattg tggcgttgcg 2340

cttgtattac cttagcttat gagactggga cagttagcct acttgatgac cataagaaat 2400

cgcatgtctt attcacatgg cataccagag tataagtggc ggagctatat actttgcgca 2460

agtgtgttct ccaagattcc tagttcagtc agttcctagt ccagcgctaa tgattgagta 2520

tactgtagag gcagtaggag caacgcatcc tacggagtat atatccaatg caggaacaga 2580

gctggtagca gatctctcta gaaaccagct tcctatcagg tcaacaattc cgtcccgacc 2640

```
catttacggg ttcgcaaagc acgagatagt cttcaatcct cagtagtttt cgaaagatgc 2700

cgctactcgc cagatcacaa agctcaagcc acggcctcag cttgctgaga agctctctgt 2760

ctcatcctct gcacagagcg agctgcctcc ttggtccctt aaggaattga taccgtctca 2820

atactctgta atcaaattca gcggctagaa cggacaagag aggccccata gttggcgttt 2880

ggtgttctcc acatggtatg tctcttcaac cctctcgcag gggtaggaag gatgtcgaga 2940

acggcgcagg cgactgtatc cactgaaatt caggagtacg tctgtacggg tttgccaatc 3000

agcagtgaga tctgaaagac tagagtgaag ggcgactgta ctccgactag ggcagaatgt 3060

gcacgtacga cctgtgagaa tctgggggga ctcgcaagag gggttttcgg ccttacagtc 3120

tgccgttcat ctatctaaag atctctgctg gagccgaacg atgcatattt tcttgtttca 3180

ggaaatgcgc tggctattga ggagtaaccg ctcgctgaac cattggctgc gcatagcaaa 3240

atccgctagt cggatattgg gcagacatgt cgtgcttgac aattgcagga tcagagccct 3300

ggccttgtca ccagagtccg acactcgctc gacactggtc tgctcctttc tctcgacttg 3360

tagcagtgcg ttgtaagata ctgatgtgat ctgctgcagc agctgcttcc cgttgcgggc 3420

ttgctgctgt aacgcctcgc tggtgtttct gtgacgtgtc tgcaatcgac aatggctctt 3480

gccaagttac agtaagcatt gagcaaggac ggggctgagg ctaatagaca aaacaccatc 3540

tgggtttaat gggttatgtg gttttgtcag tcatatagca acgttttgat acggtacgca 3600

ctcggatgcc cagttacaaa aagggcagct aaatacataa acagcttacg tcgctttcca 3660

caaacaaacc actgtgcacc cccctcggct atctaaatgg aaaaaagaga ttggggagaa 3720

tccgcgtcgc agcctgtatt gcattcttca ggtatcgaaa tgtggtcttg gtgagatcgg 3780

cgtgtttgct cgcagtgcgg gtctcttgga gggcaaaagg cgttttcgcc ctccagttat 3840

gcttgcgatt aaagtgacca agttcggggc gccctgacag cgcagagtct gctagttaat 3900

ctcgggacac ctgaatatta aatctttgga acgtctcgct cgagctagga acgggaatcg 3960

tttgggaagc ggctgggacc atcctgtatg aaggccctgt gagatgaacg tacacaagta 4020

aaatatgagt gtgcgtggct aaggccgatg tcttcatcgc catatactac tttactaatg 4080

attatcaacc tgacgggtgc gtgtccgagt acgccagtac                         4120


<210>    5788
<211>    2994
```

```
agtgagacga gaaagagcaa gtataacatg cagaagaagc ttaaagttcc agtaacccga   60

atgcagccgt gggagaaaag ccgagggtcg ggaggaacat taactgaggt caaatgcaga  120

gtcaaactaa gtctgtcagg tggtcgtacc tcactaacta cctaggtagt gggataggga  180

gttctgggaa taacaacatg gggtagtttt gcctccatag cttccccgca ctttccagat  240

gccggacggc cgggatccga acttactttc gatataagcc cgcagtacag aatagtaagt  300

taacacgtat gaatcatcgt tatattacta gtatttaacc tgatcggttt ggcgagtgta  360

cccaattgtt gttatacatt ctagctgtaa tcatatcatt gatgcataag cttctatcgg  420

caatgctgta ctcatcaata ttttgggtgc agatgcatca aaattcacaa ctcaaaaaaa  480

agctcagccg tagggtatca tatcgcaatg cctgctaaac ggtcgactcc tcttctcttg  540

aacctgctag ttctgtggcc gccactaggg tccttctgac acctggccac tccaatctcg  600

gcgagaggga aattcctcgg tatcaggcgt aggcggagag acacgaaggc aaccaagcca  660

ggaaacttcg gggaaatgag gatgtaaagg tgggaaaatg aggaatcggg gaaaagggaa  720

atttcgagaa atggtacgcc ggaagaaaaa gttgatggat atcgccccag atccctgacc  780

ccttaaacac acggcgagaa tcctcacatg tccagacacc tgcgatagat tcaaaaataa  840

aatggtcctc ccgaataaac aataatagta accataagcc cttgcacgaa gcatattcac  900

atatccacct ccgcagccgc gggtcgtcgg ctgagggcga gaaaaagagg agcgaaagat  960

ggcaagcaag cggtctgagg accaccagcg cttctgatag ccaatataga caagagaagg 1020

atatcgtcat ggagcaagct cgcacgattt gtctaaaaag cgattgggaa atgttgtagt 1080

agaggataga ttgtagggag aggggtggg gggagaaggg tgattgcact caagcagccg 1140

gagcatcgat cgcaaagttg gtagaagagg tgtatatatt tgagtgtccc tgagagcgct 1200

tcgctgcctg cacagcatct gatattcatc aatcctcgac tcaggccagg gaaacggtgc 1260

aatcggccgg cgccaaaatc tgtagctcac aggatttgac acttgatacc gccgcggtgt 1320

cgagggcggt cggggcgaaa tgtcctgggg tactcggggc cagagtcacg catctggcca 1380

agaccagtcg tccggcgagt gtcctggggt ctttgctgtt gcatgcgctg gctgcgcagc 1440

attctgacga catcgtaaaa cgccttctca acgttgatgc agttcttcgc ggatgcctcg 1500
```

```
acaaactcgc atcctaggtc tttagcaagc gcctggcctt cctgggccga aaccgcccgc 1560

tcaaccgctt tgtcactctt gtttccgacc agcattacgg gaactggaag tggtggccct 1620

gagggcgagc tcatcgggga gcctagatag ctggcgccag acggcgagct ggaattcgca 1680

gactccttga ccatcttgat ttggttgtag aacttcgtta ttctggagaa ggaagcacgc 1740

gacgtaatgc tgtagacgag gacgaacccc tcgccgtccc ggatccattg gtcgcgtagt 1800

gcggtgtact cctcctggcc ggcagtatcg aggacctcca acatgcatga ctgctgatca 1860

atgacgactt gcttgcgata cgaatcttca atggtcggat cgtatgtttc gacgaaatgg 1920

tttagacaca actaatggca aagcatctga ttagccattc agaacaacgc ggccgaccag 1980

agacaatggc taacctgaat tgtgagagca gtcttcccga caccaccatc tcccagcacc 2040

accaatttat agagagtcat ttttccggcc atcgcgacct gaagctgggc gcctctccag 2100

ggcaccttct gcggttgcgt aaagaataga aaaaaaaag aatagaacac aggagatgga 2160

gaagaaaggg ccagaaatgg gaagaatatc gatatttgga gggagaaggg agaaaattag 2220

agcgttctat caggacaccc cgatgagcac ggacttcgtg gaagcggaga ggagcgaaaa 2280

gctgggccta aaggaacggg ctattttggt ggtagtgcga ttattagcca ccggagaaat 2340

cgacctgcgt cgctttaggc tgctgtctca atgcacatgc caatgccgca agagcagcag 2400

gaatggcttt tcttttagcc gacaataacc acgtacctct cagctgagat ttagaaagag 2460

tctcagattg tgcttttgga tcgattttgg gggaatggag ccacagatga ggactcagat 2520

tctggaggag gggaggggaa aagaacgggg cctccaacta aagttttgga ctcgagcagc 2580

tgtcgcaaat aagcggccac caacagctgc cgaacagtgc aagtcggata aacagaaatt 2640

cctccgaata tgccggcgaa tgtaggggaa aaaatagagg gaataaagat gttcaggtat 2700

tagatagctt tgacggtgta ctgaagaagt aatcggtatc gactccctga gctttgggtg 2760

agacagaatt gtctggctgg tgctgccacg tgagggggga acaggggagc ggagatcgct 2820

ggtttcctta tctcgttcca aggcagaaag acccaagtag tggaatgcga aagacccggg 2880

aggtcagagt gtagatcaga ggaatctacc agcaagcggg agctggaatt ctcactcgaa 2940

agaggccgtg gacgagggag gttggatggt gtggtgatgc cctgaaggcg gttc        2994
```

<210>   5789
<211>   4540

```
atggatctgt agatgacatg tccacgcaca aagacaacag aagaatgcga cgggagcctc    60

gtcaggccag tgttgaataa tgcggcgctt ccgtaagata atcctcgtca gatcatctcc   120

tgcatgggat gctgccaggt agggtcatgt attggtattc cctgattacc ctgcccactg   180

cctgggttga aacggaaagg cttaccttac cgacgaaaca cgccagaacc gccgtcggag   240

aggcctgata aagttggcgg atcattgctc aggaaattgt tatggttatt tctagactgt   300

ctagacggaa agttaatgca tacatagccc ctggaggtat ccgtatattc taagtgaact   360

aaactgcaaa atgtagggca tggcagaatc actgtccaaa gtccagtcta catactttc   420

ctttctttc ttttcaactg ccaggcccgc aggcaacatc gccgctaaaa ataatccacg   480

agccacgagc cttggaatcg tctccatcag ggttagagtc gagcttataa catgtgctgg   540

atttgagctg ctggcccaaa ttgttagcgt tgtcagcctg tagatttgtt agtcaatact   600

aataataatc caactaagtt ggattttggc aaaggttgac aataaacctt attaataatc   660

agggactttg tgtcagccct tcctcctttt gactgggggt ttggaaatcc ttgtttcagt   720

ataagtaggc tgcggcataa ccgcaaccgc ggctatgaga tcgataacca tcaccgcaat   780

tgcggttatg gtcatgagat ttgataacca tcaccatcac cgcaaattcg aggttaccag   840

aggggggtat agatcgggct cagccgggtt gagcatgcca gtaagactaa tcaaaagatg   900

aaaatggtgg tatcgtggta tcaaacgctg agataagaaa gtactaaggg gagaaaaaaa   960

agagaaggag gaaaggaaag aaatgaaagg aaagaaatga aggtcgcctg cgccgaggag  1020

agaaacaacc acacaaacag aaaggttcta atctctaatc agccccttca gactagaaaa  1080

ttcatcttgc tgccgtgtta ccacggattc ctgcgaaatt tttgtagtga ctttgatctc  1140

cgtcggcggc gaggaggaaa gaccgtcttt ggctttatcg gaccgttttg gaaacgtatt  1200

catactataa ccgtgtgagg tttcgtttcc gcctgcaaca gaggcctgga agccaggcaa  1260

gttcatgctc cgacttcggc cgtagtggtt tgtagtgctc ttgctttct cggttgagaa  1320

gaaacggggg ataagctttg agatgaaggc acgtgttgcg ggaagacaag cgcaaataat  1380

ggcaacattg cactcgatcg cggaccaagt tgctgctcct acgttgtcgt ctagaagcta  1440

ttagtcgttt ctcgtttaa gacatggtca agagggtgac tggagtaaac ccacaggttg  1500
```

```
gatcgtcgga gtctgatatt accaaaaggc ttttcagacg aaggatgctg gtgacaagca 1560

cactaaggac tagtcagtta ctgtagaagc gaagtgggta tggacataca aagcgccaag 1620

tgcgaagact gccataaggg cgagcctctg ccgccgtggt agctggaggt ttctgagcac 1680

cggcataggg aaaataagga ggacgatgtc ggtaaaaata tggattgcgg aattggagaa 1740

ccatagggcc ttcttatcca agcaatagcc atcaatagta gggtcccaga atcttgcgac 1800

tgggacgcaa ttgagccacg cactaacgaa cgtccaagtt ccccataccc cgacgaatcc 1860

gatcaggatc caatttgcta tgtgcattcc ccgcgtagca aaaacgcgct tgtactgcaa 1920

aaggattgat gcttttgtgg tgatcaggct ggcttgatat atggggacgg aggcccaaaa 1980

acactgcaat gatgaataac actgttagcg ttgcagaacc agcaggtacc ggaaatccat 2040

ttgttatccg cggcacgtac gatcatctgc ttttccaata tgtcagacgg aatcagttct 2100

tgatgctctc ccatgagata ggcggtttct ggtggcggag aagtaagtat caattatgca 2160

ctggagcttg gagcgtgttc gggattcaga aaatgggaac aaaccgccga caaagatacc 2220

gaagaaagcc caactgaaaa cctgtgtgca taatgttagt gggatctctt cctgacgacc 2280

tggcttatgc cgaggcacgt aacatacgag agatatgatg attgtccaat catccgaccc 2340

catttgtttc accatgaagg ctcgtgtgta tatgcggatt gctgcgagcg cggtggctag 2400

acaggtgaag acggcactta ttgccattgc atgtcgaccg cgaggtacac cgagggccat 2460

tgtgacgctc gaatgccctg gaaagccgag tcaaagccag cacaggagac aacagtgaga 2520

tgaattaaag ctcgactttt tggtgtcagg tagtagagtc agagaatttc attctgatga 2580

atatagtctg ttgaaatgaa attcggaaat cactccaaga actctggggc agggagggag 2640

gcgctaagta aatgaatcga aaccgtgctc acggaccaga gcagtttgac cagtggcagc 2700

ctcacggttc aaagagatcg cccaagccaa attaatatca gtttgagatt aactgaggct 2760

agagccactg ttacggcgcc gctaattcaa atctgatcag aatagtcggc taccagcgcc 2820

cgcgcgaatg gctattattg acaataaatg atacaaagta aatcgtggga gagtcttggc 2880

catggccgga gctcctgcag ccccaatcat tgtagaaaat ttctgggctg cggagttgcg 2940

gatgccgtca atcggcccgg tttgcctctg tcatgatgtc gagcagcgag accacttgga 3000

cacaattaac cgctaagcga gtggccctca atgctggcta gaccatactc ttgtagtaat 3060

catatttgta gcagggtagc atggccgttg gccttgcgat tgagaccaag accgacaaca 3120
```

```
gcttcagcga gcatagcaca gcacttccac acaaaggttc atagcagcaa agaactcctg 3180

tatggagcgc ggaaacctcg ggcctccgcg gaaatgtcat gcccattgta aaaagagaaa 3240

gttcacatta ttgacccaat cagttgccat ttgcctgaat cagctttcaa gcacgcctcc 3300

caagttgaaa ttctctggta gacgcattcc agacatatcc acacgcgagt agacagagag 3360

cgcggattcg ccacgctggg tgggacctta atgccatgcg agtcctttac tgggaatgaa 3420

caaccgctaa gagccctcga ccacggttaa cagatatgac agtcaagcgt atagctgtct 3480

agacccttgg cgagtaacag gtcgtgacgc aggctcttta acggcaggat tctttcacaa 3540

cggctgaaac tgatgcgata gtcaaggttc agtatctttg atgcaacgaa ggcagcacgc 3600

agaaggatga tcaaggtctc gctagtcatc gttttagtgt gtttcgggac gtcgagtggc 3660

cactgtcggc cgagctaatg ctgacgttcc tgatcctgtt cattgcgcca ccgatttagc 3720

cttattacaa ttttaactcg ctaacgctga ggaatgacga tgtgcgccaa gcataacacc 3780

cacccggagc ttcgggaagg gacgattgcg attatcttcg atttatcatt ggcagtatag 3840

ttaatcgcgg gccaacttcc aactcctgca cgttttgcag cggcgatctc ctccagacgg 3900

gaacccgatt ctgggttctg ctctgtggga caacaagtca cggagatggc gtcttgggac 3960

ttcgtaactt gctcttagtt gtcttcagcc tgcgtagaga tctgaaagag cgagacgaag 4020

ggacgactgc tgaacgggtc gatgcgtatt gtgggttgtt tcggggtctg ggcgcgaggg 4080

acgaatggct gcagtcccac ggcgcgtgac ggtggaagga ggaagcgaag gtcgtgctct 4140

tcctcctacg acttacatag cgatcaactg ctcataagtc gctatagtct taagagtatg 4200

aatgccgagt tgaagcggga aaagagccat cgcccagtca gagaccttga cgattcgtga 4260

tagttggtga aactactcag aatagaaagt cagtccataa ggcccaccag caatcgggga 4320

tctctcttat tcaaagcttt gacggaccct ctatagtgga aatgtctcgg tgccaacggt 4380

atgggtagag aagtagacat tgaacagcgg taggcagtac ccaaatgaaa tagggctcca 4440

taattcatga ctcagacaat tctcccacta ttgacccagt taggaaaagg aacgtggccc 4500

gtgacttcca ggaacgagga cgatcattgc aaggttggag                        4540
```

<400>   5790

attcaaggtc tatcagtcag attttttgcct tgacgccttg acgttttgtt tcacgcctta   60

gtcttgacaa caaaagagcc atgcgttctg agatccctgg agctggcgcc cacccaagcc   120

tcgtacgtac caggagcaac tgcccacttt tggtgctgga catcccagta gaagatgtca   180

cggcggcgga gctcgaaggt caccttggtc gactgaccct tcttgatgta gacattgtgg   240

aaaccacgca gctggcgcac tggctgcttc gcgacgtccg ggtacgagat gtagagctga   300

ggcacctcgg ccccatcaag agagccggcg ttgcggatgg tcacggtcac cttggcgact   360

gtatcccaca gatcttcata gccaccgacc gcgagctgac ctgtagggta ggtggagagg   420

gcagaggggc cctggatgtg gaggtttgag taggcgaagt cggtgtagga aaggccgtag   480

ccgaactcgt agcgaggagt aacgttatag gcgtcaaaat agcggtagtc gatatagtta   540

ccctcggtga agttgcactg cgctgtgtag cagatatcca cattgtagtc ggattcggtc   600

ttcgcgatgg tgtaggtgag gcggccgctg gggttgacat cgccgtaaag gacatcgaca   660

atggaattgc ctgattcctg acccagcaga ctgccgtaca gcacggccgt gacattttcg   720

tgctcaatcc aactgtccag gattctggcg ccaactgtgt tgattacgac cacggtgttg   780

tcacagttgt ctgcaacctc gttaatgaga ttgtcctgat cggtgttgcg cagctccgtg   840

cgatcagcac cctcgccagc taatgcgttg ataaaaacta ggcagacatc catgttctcg   900

gagtatgcac tgacggaggg cgtgacagag gtgctggatg agccctgcat gaccaacgca   960

gagccagtgg aggaggagta ggtgtcgttg gcaatccagc gcagcatggt gccgtcctgg 1020

ctcgccttga tgttgagagc gttttcgggc gtgatcaggt atggcagaga agcctgtcca 1080

gatcccgagt ccgtcgcgat atggccgtcg tacgtaggtc cagaaccctc gacactgaac 1140

tgcatgttag ggccagccac cgccgcacgg gcgtgcgagc caaagatggc catcttgtga 1200

ggcttgtaga ggggcagggt attgttcttg tttttcagca ataccatcga cttagaacca 1260

tgagaacgga tcagcttggc gtggttggcg cggacatcga catagtcatc ttgcgcggca 1320

gtagagggct gggttccgtt atcgaggttg acgtagtagt agcccatcag gttgcgaata 1380

gccatgtcgt tcagacgagc ttcggtgatg ttgttgctct caaggtaccc ttcaatcgtt 1440

gattcactcc agaggctgga cgaaccgtaa tcaagtccat tagcagcaga agcaagggca 1500

tcctgctggc cgttcgtatc aggccagacc ataccgggga aaccaagctc ggtcttgaga 1560

                               11893

```
atgtctagaa ggagggagga gctttggcat gagagcgtgc cgttgacttt ggtcatggcg 1620

cacatcacac caccaaggcc ggaatggacc gcgtcgtaga aggaccagag gtatgtctcg 1680

tggagggtct tgtcatcggc gttggatgag tagggagcgc cggaggacga cgaggacgag 1740

aaagcactgc taccagccat tccaccaccc attccagagc cgccgggggt cgaagtggac 1800

gatggaatgg ctcccgcaga gcttgtagga gacatgcccc cagggacact agagctaaac 1860

tcagcgcctc tccccatgcc gccaccacca ggagcaccac cgccacctcc catgccgccg 1920

gtccggttgg tctcctgctc gttaaggata aagtgctaaa ccgcattaga taggcagtaa 1980

tttgtcggtc aggtgaaatg cttaccttag ccccggcgat aactcccacg tccgcatagg 2040

ccctagtttc caacccggtt gcaataccat tcagatacgg atcaggtcca aagctttcca 2100

ccagtcggcc gccccatgga gtacggccaa gaggctgcga ggtcggaccg gcaaccatct 2160

ggattccctt gccgtagaac tcagccgcaa tggccctgcc ctgctcgtac atggcctcct 2220

tgtcccaagt catggccaag gcggaggaca gactaaacgc cgagacataa tagtaggctt 2280

gcgcgcccat gtcaccgtcg agaatgtcga gagccgtaaa tgtctcgcca ttggtagtgg 2340

tcacactgct gccggtgatg agcttgatct tctcggtggt gttgagcttg caacaaatt 2400

gcgaggcttt ctcgtgtgcg gatttccagt caccgagaga cactgtcaag agtcagccac 2460

tggcaaagaa ctggtcccta gtgcagagag gatacctttg ccgctggaca gaaggccggc 2520

ttcaaaattg ctggcggcgg ccagcgcggt gccgagcaga aaggaaagaa ctgataacga 2580

aggtaccctc atcgtagtga ggagggagag tgatctatag tgcggtaaaa ggaacggaag 2640

ggaaactgaa ttccaattga tcaactgagg ctattcggca ctcaggacgg atctttatac 2700

tatggcccat tatggtcata gagaagcata cgcgtctgcc gcgcacaggc catattctct 2760

cggaaaaccc gagagcttgt ttgatccatt tagtttaggg tctaccgtac actggggctc 2820

ttgcgtctat gatgacgtgg atattcggta gcaaaacagc cggttcggca agccgagcgc 2880

tggctgaaca accaatagga gctgtataca gaccaagtag tgggatatac ccacgtgtgt 2940

gagcgaacta cagccaatca cggaggatat aacttctgca gggtttgcac aatacagtat 3000

tcaataaaga gtatacagga aagtacggcg ttggttcttg cagacccagc ggatgatgat 3060

gttaagagta ctggtctgca gtcatagaca tagaactcaa catacaatta ctcgttatct 3120

tagtaacaac aagcagcgag tgattccgct taaagactgg cacctcttcg ggctaacttc 3180
```

```
gggccagatg tcctgttctt gtgggtcggc caagagggtt ctgcgaagag cgttgaaaaa 3240

atctaagagg gcagaaaaga actggctatc aagatatgag acattgtaag atgaaacttc 3300

tgcaacgtac cctgaaaccc ggcccacccg gtataacagt aatgttagtc tcacaaggct 3360

gaaaactgca gggaacttgg tgcaccacga gttcatgaat catgatctct caaccggcgg 3420

catgtgtaaa aatatgtgtg cgaaagatgt tgaacctaca gccagtcgca gaccttccat 3480

cgaccatatg ttgatatcca gaactttcgc ctaatttccg acaatagtga aatcaagacg 3540

ctcttcgaaa gctttgctca atggatcaca tgcgatctga agtacttaag gggaacaaaa 3600

cgctgctacg agctgtcctc ggcccaaaat tttagtatct gttctaaaag ctatagtccg 3660

ccttgggcgg atgtttagac ttatttctca aatctaagtg acataaggcc ctgacgcata 3720

gacagcggac gtgaaaactt cgttgacaat ggctcgtgat cgatacgctt caccaactta 3780

gtagctagaa aacaaagtga caacatagac cagagtaaca gttttcaatt atcagatgat 3840

tgctgtcctc attccccata tacgacccag caatgattgc ttgggcgtcg ggttgagcct 3900

ttcttcctct ctttcctctt cgtcaatcct gtcaaaatac tttgccgggc caaaatccat 3960

gtctttgggc gctactagct tcgtcttgaa atatatctgc acaggctgtc agttagactt 4020

ctatctggga agggcaggag gaaaaagcac cttgtataag gcgtagtccg cgaaaaacag 4080

cggaacagtg atgtacgtag cgaagaaatt ctccgcacta ggatttcctt tgaacggata 4140

gatggcaaag tataattgcg cggcaaggaa gaggattatc agcaccattc caagatactg 4200

tgagtagggg gcgaagcgat cacggtaagg gagcgttctg ttgtcgattc cctgggactt 4260

gagaccttgg cggaatcgaa tatgggagac atagatcaaa aaccagttgc aaaaggagga 4320

gatgccgacc tggaccttat g                                            4341
```

<210>   5791
<211>   8141
<212>   DNA
<213>   Aspergillus nidulans

<400>   5791

```
ccgagagtga ggtcctcgct ctgaagaaag ggtacgacga tgcaaacgct cgagacactc   60

ccggtactca atgccgttat caaggagacc ctccgcttat acggtgctgc tccaggatct  120

ctcccacgga ctgtgcctcg tggaggtgcg actttgggtg gatatttcat ccctgagggc  180
```

```
atgacggtga gtacgcagag ctggacggtt catcgcgacg agaatctctt tccagacccg  240

gacagtttca atatctcgag gtggctggag gagaacgacg ccgggtttcc ggctgcacag  300

ctggcgtttt cgccgtttgg tgctggtggg aggatatgtt tgggtataca cctggcgtat  360

atggagctgc ggctcgccgc agcagagttc ttcaggagat gtcgaggggt aaggctgtcc  420

ccggatacga catggaagat tatgaagccc atgaattact tcttgattgc cccaactggg  480

aatcggtgtg atattatgcg gggatagcat agcaagccta tacatgatag attgatgata  540

cgctgcgcta cttatcagcg tttagtagag atcaacctac agtagccaac ggcaacctcc  600

aagctttgat aattcttacc ctctcctgtc gtcaatttaa atgttaccgt attagcgagt  660

cgcgtcacga gcccaaagag tttatatccc gcttgatctg cggtgcggac gggtgcagtg  720

gtgagttcag cacggagtcc atgacacctg gcgtgaaaat catggaacta tgatcctcat  780

atgcccggaa aactgccata tattgccgaa cgaagcagc ggcggctcag tacaagttct  840

ggttgggcga tttgataact tggtcgcgct tgtgagatct tcaaggaatt cccctttcga  900

atacaagatc ttcagactag cacaatttaa acagtaccat attccgacga tttatgagga  960

tatgcctcta cacgggtcaa agctcagatc ccgtctctac tgcagtttct tccaccatcc 1020

ttcatgttcg ccccttgtag gagtttctcg cccgggaaca ctacaactcc ctacttggac 1080

cgatcgtcct catatctgct tcgcagtaaa gaaactattt agacttaagg tgggccgcaa 1140

gaatctcctg cttggtcagt tctggccttc tgggaccgct ttcatggcgg ccttccctac 1200

gtcctgacaa ctcgctttaa gtggtaattt gtcaaatggg cttgcctttt gcagagcgtt 1260

cacaaattcc cgtatccctc accagtgaga tatagacggc cgcggtgaag gcacttgtag 1320

ccccaatcat gtgagggatg gtgacggtgt ctggggagat gaatgttggg gtgagttccc 1380

aatagcgcgg gatatcgagt tagaagcccc tgagatcgac cctaagttcc agtactcatt 1440

gcagatcttt cccacaccat ttttcaaagt cataccatcg cccccgagag ctgacattcg 1500

gtcatggctc gatgatcacg catacagtaa gatgccgagc gtaagtatag tatggccttg 1560

ataaaggtgt cgagggtcag aagaaatctg cagtacgtag gttggtccat gcacctgctc 1620

tctgccttgc tgctatataa tagaatgcac aggccaggtc aaagagcgcc atctcaattg 1680

tttggggcat ctatactctc tagtattatg ctgcttatct accagggcga gaatttaggc 1740

atattggtcg gtgccctcat tctttgtctc gtacgcttcg agactgggta cacgcaacag 1800
```

```
cattgttgat attatttggc aaaacaggta tgctgtgagc gacgccaaca ctcctcctac 1860

acatctcaaa tgcatccaaa cgcatgtcag agcctattaa actgagaatt tgcgatacgg 1920

ctctgcaata ccaaggaaaa caaacatagc gctcctaact tccagtgtat ctctgatcga 1980

gtttagcttc gcgatcagat tgcgtcttca tttgtgcgat ggaaatttca cgaatacgcg 2040

agctcgtcag aatccgggta cagacggtct ggaagaaagt ctgactaggt tttctgtggc 2100

gtcgtcaatg gtttcatctt ccgctactgt ggtttcacta ggagggatgt ccaatatatc 2160

cccatctcct agagaatcac gttgcccact ctgttttttcg gcttcgagaa ccggcgatgg 2220

gtcacgagcg aatgcagacc agagtcagaa tatctcgcac actgatggac gactcgaaca 2280

ggagtcagca aataaacaag gaataggacc cctgttcctg cgtcagaagt gtggcacggt ·2340

taacagctac ggcgggccag gacgaagtca cgcagctcat tacatcagcc ttgccttgct 2400

atcagaaaga catcaggtcc aatttgtgcc ctttgctctg gctattaact gcgctcgtgt 2460

acaacgggtc tttcgccaac gcgcgaaagt cacccgagcg cttccggtac tgcggacgct 2520

aagactagta accctattcg atttatatga agcgcgatca tgccgaggtc gccgaagaga 2580

ttcatatggc aaccgggcta gctagagtga atatcgggtg agaacgtttg cacagacctc 2640

tctgctaagc catagcaagt ctgaaggctc gaattgacca attatcgtcg cgcaatctac 2700

tctcagccag atccatttca cgtcccatgt caggactact gagtcaagca gcggggatgc 2760

agtgaaaaca cgacgaaact agggctcgcg tgctctgcgt agaatccaaa cctatagggc 2820

aggctccgag gccacgcaat attagtagtt ggaatgactc gacagccgca tattcctgca 2880

ttgattccag tccccatctc cacttcccca ggatttctcc caagaggcga acggtggggg 2940

aatataacag cctcacttgc tcgtgggcct tctcatttcc ccttgatcat tcagaacttc 3000

gcttttact ctctaccgcc aatgtcgatg tacgctttgt cggcgccatg gacagtcttc 3060

caagctgcgc ggtacggatt acagccctgg cattctaaca catggacatt gattactgac 3120

aatgggatag gtttcctgtc tgatcagcgc cattaacaac tccacctgct ccttgaccga 3180

ttttgcatgc atctgcgctg acgcccagct aaatacgcag ctcacgccgt gcatgcttgc 3240

gagctgcacg atcagggagt ccctgagtta gtcctcacct cgattgccga cgggcccctt 3300

ccatataaac agctactgat cgggctcgta gcggcgcaga actactccta ctcaacatgc 3360

caatatccaa cgagcgagaa caccaatacc tttcccatca taaatatcgt tggcatcatt 3420
```

11897

gtggcgatcg tttccgttac actaagagga atgtatcgca ttctcgctgg acaactaggt 3480

ctagatgact atacaatatg tgctgccctg gtacgagctt agctaatcgg cgcgtggttt 3540

acgcaattag aggaagaatg ctaatcgaat cccagcttgt cgcggcagct atttgtggcg 3600

ttggcgttcc gtgtatgtct cctcaccctt gcatttaaaa aacgaagctg aagcagacta 3660

aactgacaat gatcaagtga aggatcacgg tttaggcaaa aacatctgga ccgttccgtt 3720

cagcgacatc agtgagactc tcaaggtata tggaaccttt cgcccctttc tcttcccgct 3780

aggccgctat cccaagatat taacaccatc tgccgctgca gctgttcttc atagaagaag 3840

tcctctacac aatctgcaca gcattgatca aactatccat gctcttcctc taccttcgac 3900

tcttccccaa tactcttcta cgcaaagcag tcttcgtctc gctggccata acttcccttt 3960

gggcaatcgg gtcatttctc gcacaggttc tctcctgcaa gccaatatcc tactactgga 4020

accaatggga tggtgagcat gaaggcagat gcgccagcca taactcgctc ctccttgcgc 4080

actcgattat caatatcttc ctggatgttt tggtgattgc ccttccaatg ccggttcttg 4140

tcaagcttca gatgagcatt gagaagaggg tgggcatgtg cctgatgttt gccgtggggc 4200

ttgtgtacgt cgtctttctg atatgtgaga gtcagggttg acctttggtg aacatatagt 4260

gttaccatta taagcatcct ccgccttgtt gaaacagtcg ggttcaacga cactaccaat 4320

ccaactagtg cgtcaacact actcctcctt gcacaatagc ttttctgaca gagttccttc 4380

agaggatttc gttcccgtcg gcgtctggag tcttctggaa attgacgtcg gaatcatgtg 4440

ctcctgcatg ccgggcattc gggcgttgac gaaacggctg tacagtacat tattcaagac 4500

tgatggccag ccgcgtagcg gatacagata cggctcgaga cagtcaaaac caggcagtgg 4560

gggttcaggg tccgggtcag cacatcgagt tcagccctcg ttgaaatctg gctcgtcgaa 4620

ctcccaacgc gggaggggag ggtcagttca tcagactcaa cgaggtcgat agtcgagagg 4680

tagatacgac aaatcatcta tggccttttc gtgaattgcc cgccggtaac agtgccgcca 4740

aaagactccg tgagagtgac aagggcgtac gtgcagactc aagggcaccc ttggcaagaa 4800

tacagcgatg actcgaaacc gtcaccattg ttaccgccag cgaggtatga agacccgcgt 4860

gctcattatt gtctgttttc gaaggctgcg atagccaggg cgagcaaggg ctcatcgcac 4920

ttcacgtggt ttcgggatgg tgactctacg tattcgaagt gtctcaattg atggcgtatt 4980

tggagcaaat tggtgttatg gtgttatgtg gtctgccttc ggtgctatat ttagtttgca 5040

aattaaggta cgcagtcttg aactttcact gctagtcggt ttcctcttaa attgttaggt 5100

ttctgtagga actaaacttc caggccagga cctgtgcaaa cggcaacgtc tattcttctc 5160

gcgtctcttg agtgatagac atgataatta gctgccagat ggattaggtc gtagagtaaa 5220

ggctcctata acaccaacgc ttgcgggtgg tcgcttgaat gagaagccaa atgtcaccta 5280

caatggcagg gaggtccaat gttttagcaa tgccctaagg catagctggc cctatcagct 5340

cgctcacggt tgcaataaca tatatattac ctactactct aggaactact tcgatctttc 5400

atgtattgaa gcacaacatt acctcctctc tccgagactg tatcctcaat agcaaccatg 5460

tcactgcatc tccatccact ccacaactat tcccctgccg acgcccaact cctcaacatc 5520

ccttccaggc cagttgctac ctgatgacgg gtcgggcggc atcagagcca atccaccctt 5580

catctctgcg tcgacgccag cgataaaatc ttccagcgcc tcgtcgagcg aggcattgat 5640

tccgccggcc ccttgtcttc tcgctgtcca agagaaaata tgtccttcta ggggtatggg 5700

tgtgtccatg agtggagcct gatggtcctg tggatgtcta tgcaactgtg gagcgtatct 5760

ggttgtattc cactgctgat gggcctgcat atactggcaa ggtttggtcg gcattgcgca 5820

ggaaggccgc gtgatcttgt gctgcgtgaa gggttcattt cgacaggcaa ttgttcgggt 5880

agggaataag gttggggacg ctcgtgggcc gatagtgctg tcgttgaacg aggaagccat 5940

tgtggctggg gtcgtcggtt acaatgatgc tttgtgaagg ttgcgctggc acttttgtta 6000

atgcagttga aggagtctgt ggttgaatgt gcatctgcgt tagagttgct ggaaccgacc 6060

gaggtgcctg gggtatgttc aaagacgtag atggtatcgg gggaactgca attgttggat 6120

gttgcgtgag gccgacagca tggctgaatg accctgcagg atgaatgata gagctagatg 6180

tccagccaac gcccggcacc tggcctctcg aagctggtag tattccagct cccgcgttca 6240

ctgcagctgc catcaagccc acttcgtcta ggttcgctgt cgtctgtctc agaatggtgg 6300

ttgcttgcac ggcaaatggt gtagagatgc ggggcagcaa agttgagttc atggatgact 6360

aggtttgaac gccatctggg acatattggt aggaattatg ttccgggatg attgtgcgga 6420

atgaacttcc aaagtacgat ggcacgtcct ggctcaagac attcttcggc ttcagtagag 6480

agtcgcaata ataagttgtc aggatttagc tatccctatc tggccgccca actaggatac 6540

atcaaatgag ctgcaaaccg tgtagttagt gatgtttttc gctgagataa caagaccata 6600

aagttttcag aatgcgtact attgacacct ctactgcttc cgaccaagag taagttctat 6660

11899

```
gagccaggat atctctatca gccgctaggg cagaagactt ggagtttatt tgaataccac 6720

attgtactgg atgcaggaaa gaggcgcagg cactaaatga tgcaatccga tgtgatgccc 6780

ttgatacttc ccatatccta gtagtcctca atttgtcgtt gagaggtagc gcggcagtaa 6840

gtgcagttga agttagggaa gggcattggt attgggccat ttacagaaat gcgttaacgt 6900

agtccaagta tgaccaggct gcattatcca gggtaaccaa aagcgaactc gtttatagag 6960

ggactctccc ggctggaatg cagggactct cccggctgga atgcagcgac gatatgaaag 7020

ggacggagaa tggtggcatt acaatggagg ctcactggag gtttatactc tataccaaat 7080

atcagcttcc acgctaaaag gcatattgct agaaaagctc gcttcatatg aatttgccat 7140

ggataacgga catagctcat gtcagacccc cctccttgct atttatgctt tacaacaggc 7200

agtgtacttc cttcgccagt ggtaccatta taggagcata aaactctgtt ttgctcttct 7260

tttcccttga ttggcgcctg gtctgatgta ctccatcatt attattttct tttctacctt 7320

ttccatgatt gcctagcgga cagtataccg tagcttcgcc ttaccctagt ccagcttcgt 7380

gttcgttgtc aaaatgtttt cgttgcgtta caggtgccgc agggcattga cagttaattg 7440

caagttatag atgaccctga aatcactgtg caattccgta ttatacccaa gacaatgggc 7500

atctattctc ctgctcccta ccgcatctct actattcgcc atcctagtgg cctacctcac 7560

caaaatacct gaaattggcc cttaagggct tacaccaact aaagcctcct aattccaggc 7620

tgcaacgctg ccatctgtcg atatcccacc tccgtccaga cccttaggcg cttaccaaat 7680

acgatcattg ggataatcgt cagcgtcatg ccgtcgcaa tacacgctac cacaataaac 7740

atattgatta aacccgaagc ttcgatccac ggtgtcagtg caaaaacgaa gacggtcgcc 7800

aagccgttgc ggacgaatgc gacacccact agggcatcac caattatcta ctcacgcttc 7860

gtcaggatat gcagaacata gaggcaaaag gctagacgag catacttcct ggtagcaatc 7920

agcaagatat gtaagtgcac aggcgccgat gcagaacatg gcaaagcaaa gactgcacta 7980

cctagagcaa gggaccacca cggccaaccc tgctaccatt agccaccact ttgactaggc 8040

ccaaacctaa gctcttaact tactcttgct aggccaatac caaagacaag caatccaatc 8100

ggtgtagcga ttatagcagg taagctcata tgcagtctgg t                       8141

<210>      5792
<211>      3686


                              11900
```

```
ccaacatgtg tgcgcggtag ttcaccatgg aggtgccggg acaacagcgt gcgggctccg    60

gaatggccgc ccaacggcaa taataccgtt cttcggagag tatgagaccc aagtcttcct   120

cagattctga gtcacgttgc tgattcactc atccagccag ccgttctggg gaaatctcgt   180

agcagtttct ggcgcaggac ccaaaccgat accgtaccga gacgtcacta ccactaaact   240

tgcagaggtg attgaattct gtttacaacc tcagattcaa catgctgctc aaactattgc   300

gtcgagaatg cagtacgaag acggagtcaa aactgctgtt gattcgttcc atcgaaacct   360

gcctcttgat aagatgcggt gcgatctgct gccaaaccgc agcgcggcat ggacgtgtaa   420

aacgccttca ctacgcttat cgaagcttgc ggcgcagata ctggtagagc atctacgggt   480

tgacaggaag gctctgcagt tgtacggttc ccccacttgt attttacctt agaggaaacc   540

atatactgaa tatacttaca gctacgaaac caaccccgtg gtgatagaaa atagacgctg   600

ggatccagtc actggagcca catctgctgc aataggaaca ggaacagaca tggtcaagtc   660

gacagctgat atcttcctca aaccctatca agagtaccaa gatcttcgcc gaggacggcc   720

ccggtcagga gacagacctg atgataatgc atatattcct ccagcgcccc gatcacttag   780

tacacctcca gccagacacc ctaacccagc aaccaccaga tatgcgcttc agccccagca   840

ccttccacac gacaagcacg attgccaccg catctgccaa aagcatcggc agagttctca   900

ccacctactt caaaggcact atggtcgaca tcccccctcgc aacagctgag ggcctacgcg   960

cagtcccgcg tctctatggc gaagaagaca agagcataa accggtgaag gactggaaat  1020

ccggcatggc tgtggggtgt ctttccttct cgcagggaat gttacccggt attacgggga  1080

ttgttcatgc agccgtacag gggcgctaaa aagaatggcg cactgggtcc ggacaaaggg  1140

tcttgctaag gggactgtgg aagggacagc gagtcttcga tcgggtgtgt gttccctttg  1200

cggcgtctat ctgcttttat gcggaaaggg gctaactttg acgttctgcc agctgcgcta  1260

gggcttgtgg cgtacccagg tcagggtatc tgcaagagta tccactcctc ggtgcggtcg  1320

aagactcgcg aagcgctcat acaagcaagg cataaagaag gggattatct cgttcggaat  1380

ttgacaactg cgagtggggt tgatagggt gcggtgataa gagcgttcga ggccaagaga  1440

cgtggccacg gcagtggaca ggagagaagg tttgatactt gggatcttgc aagaagtcag  1500
```

```
gatagtttgg gaactgggta agcagtgcct gtgctatacc gcccttctca tgctctcgat 1560

attgtctacc ggggctcgcc aacgtcgagg tcacacaact aacattgcac agctcctaac 1620

catcctgctt tgctataaga cgcatagaac tagaaagaaa tatgacacaa acaaagcaat 1680

catttccgca cattcaacat tagatcaaac acaacttttc ccctcgcatg cccgctctcc 1740

aatcgttcat acccaggctc aaactgctct agagaccaaa cactgtccac gacaggccaa 1800

catttgccct cctccacaaa tttcgtgacc tgctccaagt cctttccact aggcgacata 1860

atgaagaact tgtcagtcac accagttact tctaaatcct ctggccgttt ctgctccggc 1920

ggctgcacaa tcccaataat cgtgccgttg tcctttagcg tccaccaggc atcttcaagc 1980

gccttcccac ccacgcagtc aactaccaaa tcgactttat tctccggttg cagtccccag 2040

gccttgaaat cagtcctgtg atagtccaga atttcagtcg cccccaagcc cctcacaaac 2100

tcgctgttcc tcggtccaca agtcccaaca actctcgcgc ccagtaacgc cccgatctgc 2160

accagccaga ccccgacacc ccccgccgca gcggtaacaa ggatcctctt ccctttccac 2220

tcctcactcc cgaatttccc gattcccgaa tgcgtaaaga acgcctgcca cgccgtctca 2280

gccgaaagcg gcaccgccgc actctccacc cacgagagat ttttcgcccg atgcgcaagc 2340

tcctccgtcg ttgcgatcgt gtagtctcgc gcatcaccag gacgccagta gcttgtcgcg 2400

gcgtagactt cggtgcctgg ctggaagggg gagctgggtg gggcagaaac gacaactccc 2460

gcgacgtcat tgcaggtgat aatctctttg tcaatggcga ccattgtggg ccagttgagt 2520

tcgccagcgc aggggcatgc ggcgtgcacg cggatcaggt gttcatcctt cgagggatcc 2580

ggggacggta ccgggcgctg caccagcgtt accgtgcgtg atgtgggaga ggcttgcagg 2640

agggcgcgga ttgaggtcgg aaggctttga gcgttcataa ctatggttga tgtgaaatat 2700

tgttatagtt tgagtagaat tgaaaaaata gatgtgccgc gtattcctcg gttctgtagc 2760

ccgaatgatg ctaggatgaa cagagagcgg accagctgga agactttata cttttttaca 2820

ctaaaagcat gagtgagtct cgtcagaacc cgaacctatt gagatgaata ttgtagcgac 2880

tttgcgagtg gtggtcccgg cctgaggcta ttgaggctta ccggcaaggt ccgcgccaag 2940

cccgcaatag gctatccacc agggtactac tatgaacccg gcaatcagtg tgagcatgca 3000

atatgctatc ctctaaatgg tattattcaa aatagtgtta ccgcgtaatc tatttctctt 3060

tggccctctg atgacactga cgacagacga taaacgacag attgcaggtg cgtattcgtc 3120
```

11902

cctgtcggaa agccctccca aaacccgtta ggcacgtgac gctatcttag ggcttttggc 3180

tacctattct tcacttgctc gtcctctgta accaaaaaac aaggctgcct gtctcgtccc 3240

tctacccgtt acactcagct tggttgcgaa ttgcatgcac actttcaagc cacgcttatc 3300

atacaaagta ctgtccagct tcccgtactc tcctgtatta gggcacagta aatgttctac 3360

ctaagctctg acggaatatc tagacaaatc agcacagctt cagcgtctct ataggtgaat 3420

ggcactgata tatctgtatt ccatctatgt ctatctcttt attcgactat atataatacc 3480

atttgtccat ccctatacta ctaactactc tctatacggc acaactccct accctgccga 3540

caggttacac tgcctaaaca acctgacctc gccttctaca aaggcaccga ccaccgaatg 3600

cagcacccca cgattatgaa acaggaccag accccctttt tccagcatgc gcgacacaac 3660

tgtgactaaa gcgggccgtg cagtta   3686

<210>   5793
<211>   6919
<212>   DNA
<213>   Aspergillus nidulans

<400>   5793

ctgccaatgt cgggattcct atcggctgtt ttgttgtacc agtgccttgc aatttcagcc   60

cagccttcgc gctcacggat gtcggcgtct tcgacgagca tgcggtatcg tgacaggtca   120

ccaaggcatt ctagccaagt gtcttcaaat ttgggcacga actctaagaa gacggtcatg   180

tagccatacg ccaggtggaa aaatgccagt atcctctcta gggagccagg aagtcggtgc   240

cgcagcaact caagcaaaga atggatgcca tatcgccaca agcgactagg catggcgtat   300

tgctctgcta ggcggttgac ggcgggcccc gctgcctgtt gttgggaagc taagaaaaaa   360

gcgtgatatt cctcgagtag gacacggtgt agactgacta acatctgcca ctcttgctga   420

gataattcgg tattcttctg gaaatggtgc ttgaataact ctatgcattt cttttccgcc   480

atgagtattc ccgaatagat ggcttgcgtt tcatttctca attcctcttc tgtcaaaggt   540

ttagtgtcta cctgtagcaa gagcctagaa gatgctgtac ctccgtcagc cgcaaaaacc   600

cctccagctg gccgctgttc gttgctcaaa cgctgcgcgg actcctggcc gtagctcgag   660

tcttctgtcg gctgaccgga tgcgcgcgag agggagccga tttcattctg cctggcgacc   720

ccggtgaccg ggaaccgtcc gtcgtttgag ccggagttcg aatggagttg ctggtgctgc   780

```
agccgcgatg tgccaccgtc agcactgcca acatcgtctg tcgagtttac agaataccga   840

agtcgagact cgctgcccgc gcttgccttt cctgtccagc tgtccgctcc gggccggctg   900

acggggcgac tgcgcggagc tcctgaacga gatccctggg ctttgcgtgg cgggcgaagg   960

ccctggcgaa gatgtgagac cgcaagctca acgacattat cgcttgcagg attggaattc  1020

aagtcatcag tcctcgtatt ggtatacgag aaagtagcag aatattgagc gcgattagaa  1080

ttcatcgatc catcttccga tgctaatgcc atgggcgtcc tcctgcgcat cagttagaca  1140

gttaccagcc tataaatgct ccagttcagc ggacgcgcgt tccactcacc caggcgagct  1200

gctcccttcc agtgccgcat ccgagcccgc ggtgcccgcc ggctgtttgg cattaagatc  1260

gcgatctccg ctgtaccggc gtcgcactgg gagcgtttcc ctaccagcac tgacactctt  1320

gtcgctcatt gtttaggttg acccaagtac tggaacgcgt catctgattg atcagtgtct  1380

gaccgccgag tggacgaaga atggtatgaa gggtctcgga acatgtactc aaaagtcaca  1440

tgcgagcaaa tcactcaggt gagagatgct gcgcgggatg gatcctgatg ggaaagtggg  1500

ggatattgaa tctgagaaaa caacgagacg agggtattgt tttagcggga tgggtgatga  1560

catcaagctg cgttgcgctg cagctgggca ccaacttacc tgcagaaacg acttcgaaga  1620

agcatcagag ggaacaaaag cagggactgt agattcaatt ggcggagatg caggcattta  1680

agatgaagag ttaggcaact agtagaccaa cactctctgc ctagaacaca cgatgactgg  1740

cgcggagtcg ttcccgggtt ccactcagca catggataga gaagatgttg gaatcaataa  1800

tagttattcc ggctgaagag ataaccactt tggttaaaga caaaagtaaa gatgctgatg  1860

ccgtgagatt gctcttctcg atggtcgggg attaaatgcg actcggcgcc tggctccttc  1920

caccacggtt gccttgcctc gtgctctcaa tcttctttac tttttccttc gtaccagaca  1980

ttgatatatt atcccattga tcgttcaggc tctccttatc tggctggaat ggactcagcg  2040

gctcactgtt cttttaccgc ttctagccgg tataaggttg ccttgagtat gttttgtaaa  2100

tactcttgcc tcctccgatc agaccaaaga ggcaaccatc ccacctgcat cacctgacta  2160

ctgtcagcac caagtacctc aactaaacca ccaggtctgt gcatcctaac atcctggata  2220

ttagcatcgg taactcagtg agtggctgcc tcgattcttc tccggctcca gcctgctcgt  2280

gccacttggc tttatatcac cccctccgct gtgcacttct caactcgttt tgaagaccag  2340

acccaatacg acgggtctcc cttgcttaag aaaggacgct gacgactgct acttgatcaa  2400
```

```
tattactctg aattaagaga tccgtgagca cggcagtgag tgcgtcaaag ggacaacggt 2460

gctcggataa ctcatggcca ccaacaaatc attatcatca tattgaccaa caccggcact 2520

gggttcaacc tcaaggagcg gctcagtgct tgaaatgtgt tcatttgcga ctcatcgtga 2580

cgtgaagaag tccgtttagt tctgtgtcaa tgttttcata tagcacagcc ttctctgtgt 2640

cagcctcgtc agggcgtaca tagtattgta tgcgatactg acccgtacat ctcccaggta 2700

ggaagctgcc tgactggcta ggttgaccag gccaggttgc gacgattaca gaactgaact 2760

cggggtcgtg aagatcacac ggcaccgcta caaatgaagg cacctatcgc catcgtcagc 2820

attgaaagtt ctgctggtgg gcggaggtgc cattaccctg actctttttt attggcacca 2880

agggtcgaga taaatacggt caccaccaaa aaacttatct tcgcccttat tgttcatagc 2940

tctcgtgatc cttataacga gagcaagacc caggaacaaa tcattgtcgc agggaccatt 3000

tacaagactg cctaaaggat catctacctt ggttaagcag gcgctttata cttggggccc 3060

agctgttcaa actgggtcaa tgctgcagca agctgtatag ctactgagtc tgaggatatg 3120

gttctctagc caactggccg ccttgacgtg tttgagatat agcctcactt acgtggttca 3180

tgatatgcct aatcggtctg caatggtatc atttgtcttt cattcttcaa ctacatgtag 3240

gcagtcgtac cctaccaaac tcataggata tcgattgaag cccaggtgtc tccaacaggt 3300

gattggccgc gacggaggtg attgggaaga gatacaatag aatatgctga tgcgctgtgc 3360

actagtgccc ctcactcctc cctagatgat acggctaatt agtgaaaggc tgcaaaatat 3420

ctaacgccag gatactctat gcaaatgtag gtatgatagg ttactagtaa aaacatcgaa 3480

cgtctgactg ggagatgtgg cacgagcaat gcaataggg gtattttggt ttgactgttt 3540

gattttatca cgggaaataa atgcggtgct gtattgagtc agtcgcctgc agagcttgaa 3600

aaactgtgct tgggaaattt accttctgtt tcacaggctc acgacacata ggacagcttg 3660

ccctttcctt gagacatcct tttgatggag gcatgagctc gtctgcgcac cagcggcaaa 3720

gtatcgcatg tccgcaggga agtagtacag tgtcaacaac ttgactcatg caaatcttac 3780

actccatgtt gatggtcatc tcttctgttt ccttgggctc aggacgagct tccttgggcg 3840

cctctactag ctttttggtt ttactcagtg ccggtgttcc ggctaggctg tttctgtata 3900

tagcccggta ctggctgggc acgtctcgca gcaactcgtc aaggtacgga tcatcatgta 3960

gggttcggct ggacgcttgg tgctgcatgg gtgcgtattc caagcgtgct gaaggtctcg 4020
```

11905

```
tagatgtttc gagggtggtg ctgatggcgg gctggttgct ctggctctgg gttgtctgtt 4080

gttgtatgga tggagtgccg gtgtaggtcg tggtagaagt catactcgca ggtcgtgccc 4140

gcacgcgtga agactggata gatcgagctc tgttgtgagc tgggattatc ggcgttggtg 4200

tcaaagtggt tgttcgctgg tttcgcctat gatgagagct ccctgcagat gatccagaat 4260

gaggaaatgc atgcgcatta cgacttgttc gataagatgc tcctgagttc gacgcggggt 4320

ctaaagcact aaaggcaaca gcgaaaggat tcggagtagg ccgatgctgc ggttcatttt 4380

gtacctctga taacctggtg ggcgccgtaa acatctgggc cgtctgcgca ggggatgatg 4440

tatgggtatt cacgttggaa aaataagaaa accgaggcat cggaccggcc gttgagatat 4500

ttgttggtgg ttgtgaggca ggaggccact ggcgcggcag attcgtgaaa acattagaca 4560

tagtttgggc cgaagaaagg gtatcgaacg agttattcgt attcgtattc atgtcaattg 4620

tacccatgtt tgcaaaagtc gcactggtta tgggaggtgc cgtagtgatt ccagaagttc 4680

tattgttcat agtcgaaact tcgtcgttcg ggaaaaaagg cccgctgtat ggcggcatag 4740

acaagcctgc agaatgatcg gcctcagtat ggctactttt ggaaacgcga agtatcctta 4800

ccttgtacat tggaattaga gacagcttcg tacagagagg ccgcgtcaaa tggctgcgga 4860

agatcatagt cactgggcaa agacatgccg ggaactccag tagaatgaag gccagcttcc 4920

tgcatgtatg agggagcaaa gccagagtcc ataatgacga gcttcgtaat gtccgttggc 4980

tgacggaagc tagaatctga gcccaccgtt ggagacgaag taatccttac acgaaggacg 5040

tgacggaggg cagattttca ctcaaaggtc tttggggatc tcgagaacgc tgctaccact 5100

agtgggagta gctaaaggct gaggcgaaat ggagaaagta gtggtatgac tattgagagc 5160

ggggtcagca agacctgtta ttctggtaga ctgatttcga gatcaccgat cctgcttgaa 5220

aagaagtagt ctgcaccgaa aaaagcgaac aaacaaaggt aattagtaca tgggtaataa 5280

cattgtgaat accgacgcat gttccgggag tttgaacaga ttccaacata ccaaaagagc 5340

ccaatatctg ggtcagttgc cttcgtgata agactggaaa gaaggaattt cgtcaaagat 5400

atcgatgcgg aggtaatggt agattgagct cagctggaga caatagatgg catgcttccg 5460

aacgtagata ttgtttgatt gaacatctct caagccctaa tctgacgagc atccgacggg 5520

tgaggagaaa tatttgtata tgccgttctc cttacctctg tagaaggata attccgacca 5580

cgggattgat atgacaggtc acagaaagag cagaactgta aagctacagg agtagtccga 5640
```

aagcgatgtt ttgttggttt ttgaacaatt ccaaaaagaa acggctacta gagtacaaga 5700

actcttgcag ccatggcagt tcggagacag gcagtcttaa gagataaggc ccggggcgag 5760

aggtgatata tagcagttca cagccatacg ctggagactg aaaggcggct ctgtggtttg 5820

tggaacaacc aggctggaaa aagccttgac aagcacattc acttcactcc acttttgttc 5880

actgctctcc ttattttttg tctcagtgct gtggaccgat caaattcaga cgcacgagtc 5940

ggacagtgaa gggcaagagc ctgagtaaca gtggcagagc cgtcgacagc cgcaccctag 6000

gaataggagt agatttggtc gatgtatgat cgcagatcat cagtgtcagg gcgagattca 6060

cggtcgtggc tgcaggccag tgagctatga aggagaaaaa gatcaaaaag ttccagaggt 6120

cagtcgcctg aagagatgaa gagttgactg tttctaggct ggggccacca ccaatgaggc 6180

tggtacgtac tcaaaggtca gcgcacatct aggccatgca accacagatc ctcatttgct 6240

ggaaaactac gaagtgcagg ggcaaagggg caagcgaaaa agaaaaagga ataggctcta 6300

gccgagagag caagggaaga aaaatgagca caagagggaa tcctactcta gtcagccaga 6360

cggaagtcag caccgcaagt ggtggtggtg gtccgacccg caagatgatc tggcagtcag 6420

agaatctgcc actgctggtc tgccagcagt aaaacgccat tcggagcatg atgcattttt 6480

ccttcggctg agagctgcca cggaaccttc gttacatatg ggcgagaaca tggctgtgct 6540

caaaagggca tagatcattg attaaaatat gatgctaagg tctggccgat ccgacagctc 6600

tggtgggttc ccgcaatcgc cgacccagac gtcatcttcc actgggacca tctatcattc 6660

ctctatggag cagtagctgg acaaactagc ccatactctc ggtggtctga tgcgagactg 6720

acacgttcat tacttcccaa ccacgctctg ctacgtcttt ttcttttttc ctttctcttt 6780

ttgtttttga agagccgcga gcctcggctc atgcttcggg gacttaggcc gtggcagcgc 6840

tttgccgtta cctcctccag cttgcgaccg caacttccgg tcgcggcgat gtcgacttct 6900

gccagcaatc ttaacaatg   6919

<210>   5794
<211>   4456
<212>   DNA
<213>   Aspergillus nidulans

<400>   5794

tgaatgatat gacgctggcc aagcacatgg acgtggaggt cttgtcccgt cacgaatcgc   60

```
gatcgaaggt ggtcgtggat ctactgggag gagaaggtgt tatccaagat actttcaaat  120

ctccgcgtcc gatctcgcct tctaagcgag cacaggaaaa tgcgagtgct gggtctcccc  180

gcaaactgtt ccggctgagt gatgcctcgg gcgagctctc gttcagtctc gttaaggccg  240

gagagccggt tcgacgacag gacttcgacg gcaacgatgt cttcttgtat gatgtcggca  300

ctcagctctg ggtgtggcag gggctccgag caagtcaggc agagaaggct ctgtggctca  360

aggttgccca agcttacatt cggcacctcc agagccggga atccaatccc gttgtttcca  420

caattcccat ttcgaaagtt gtacaagatt acgaaagtcc ttcttttcta aagacggtgg  480

atttttaatt cacgtagtac gatgaggatt ttgcgggtga gcaattagcc tgtgtgtact  540

tagatcgaac acatcatggt tcaaaacaag ttctcattat ttttcgtttc agtctcgtaa  600

ccggatgttc accttctttg aatttagacc tgctccttct gaaagttctt acattaagaa  660

ttatggatca caagtaccta cgtcgacgga acgtcagaga gcaaggatcc agctgacgcg  720

tggtgaccca gcggtagtgt atctatgctg ttcgagtaaa acatataaga acctcgtgta  780

attgcattga gaagttatga aataacgaac cggcatcgtg gcagcccagg cctgagcgag  840

ccctagccgt cccgccagac gcagctcgca cctctactgc cgaggccatt aatacccacc  900

taggtctcga ggaactggcc ctttcacgtc gattatgtgt atactgtgta aagaaacaag  960

ctcattcaat tcaggtacta gcaatacgga tatacgtccc tgacgggtcg caatggcctg 1020

ggctgactgc ctcatgcggg tgctatatca cattcgtctc caagccgcag cccaacatgc 1080

aatagactgt ttagaggaga ctgaaaagtc atatcctcgc ggacaccgag ccacgtacca 1140

gtatgaccgg tctgataatg cccgcccacc tctgcgaaac ctgaatatgc ttgctagacc 1200

actacggcct ggccacccat gactatatcg agatacagcc ggtcgaggct gtatgggcac 1260

gcaacgagta tccgagcaaa tgctgcattc gtgacattgt agatgctgtg tacccccgc  1320

ttaagaggat ggaccatagc acgcgctccc caactgcagc caagttgtag gcttttccaa 1380

atattgtact tttcaaagtt actaataggc gattgtgatc agaaccgcat tattcattat 1440

ccaggagcta gtttgctggt ctccaaatct gttgatccta tatcctcatt ctaggagaat 1500

atagcaagaa ataagctaac aaaacaattc aagaagagaa cttctcatta tcctaatttg 1560

tatttccctc ctttgatatc atttgtatac caacgtacat cgtaccaatc caaccattgt 1620

gtcaatgaca tagcaaatag gcacgtattg tctgcatctc cggctctcgc gtcgacattg 1680
```

```
aaagtccaca taccgctgct caaccagagt taaggaagct ggaaatctag caatagctca 1740

ctgcggtcgc tactaggcaa gtagccaact tgaatgccac gggcatctcg gataacaagg 1800

tgagccaaat cattgaaagg cgcagtcctc agcggccatg ataatggggc cctccttttc 1860

gtgactacca tccgtgtaga cggcagagga gctcactagg agggttgcat taacagggct 1920

atcgcctaga agtgccagct ctttctttat ggattcaggc agataaccgc gcaggtagat 1980

aaagaagata cggtcgcttc aggatgtcaa cgtcaaacgc gatcatcaag ttgacttcaa 2040

gtagaggggg agatcttaca cgataatggg cgtcggcgca atctcgagga actcaatctt 2100

gactatatga tcttccttag gcatgatatc gtatatggca tcgttgcgcc tgggcacatt 2160

ctcatgctgg gccatggtgt cctcgccgca aacactaata ctatgcgggg ttagtcttga 2220

caagagcagc tagtgcagcg gtccaaagat gcagcaaact gtgggagaat tgctttcatc 2280

gcgtggcagt gggctgggtt gaattgtcag acagctctgg gtaagtgagc aatgaaggac 2340

gagatgattg ttggcttcat gtcacttgac tgcctacgag gctagtactc cgtagagtct 2400

agactctaga acctgtactg ccggcgatct ggtcgagctg aggatatcat gcaggccctt 2460

aaggtcgtgt ttgacgctgg gaatcgctga aggttaaggg ccacgatccg cttctcccac 2520

ggtatcggct actgcatcct aacctcacaa acctggacaa gtggcaccat ttcatccaca 2580

ccaagccaga atggccagat cgactagttt tgccctagcc gatgggtgac tattccctac 2640

cgtgaagcat tgtgcttgac gctttattgt tctaggcggc tatgccggtt tgtgctgagg 2700

aagggataat aacgtattta ggatggaact actatacgac cgcccttccg acttaagacg 2760

tatatgtggc tccggcaaag gtggccagac tagaggctga cagtaacgag cgcggcagta 2820

tgagtattca ttatcttaaa tgtgattact ctcaaaacaa agaccctctt gctaagaaac 2880

tactggtgaa tgccacatgg atattcaggc tagcgctcta tattatgtct aacatcgagt 2940

tactgtctgt ataacagata aagttactat atcatatcta tcctacaaca ctcctaatac 3000

atacgaccat agggtgtgga gaacagggct tcccgtccgc tcagccgtac ttaagccaca 3060

cgccggctgg ttagtagtat ggtgggtgac cacatgcgaa tcccagctgt tgtatgtttt 3120

ttttatttaa gctattcaat ctatactggc caaatttagc tgtagatacg cttaaagggg 3180

aaagggcagg agaaaactgt atcaactaca cgaacgtagc ctacagaggt caggctgtga 3240

caaccaatat attagtcaga acttagctct ccaaggaggg ttagcccttt ttggctgagt 3300
```

11909

```
gggaagttcg atacatactg atgtccagaa tgagtcgcgc cgatcccaga cacgtgatgc 3360

agcgtcttgg caggtatccc aacccctgag ggtttgacac ccttgtgata tcgagtatcg 3420

attggagagc tacagagata ttgagctaat catcaaagcg tccgctcctt aggaagctac 3480

ttacgtgtag ctgacttggc ctcattttgt cttcccccct ctgaggtaca tacgtattcc 3540

acaagaaacc aaagaccaac aatggccgat accaatgaca ccatatcaga aattcgctgg 3600

ctctcatgcc atatggtttg aatccgtagc atgccggcac aaccctacat ttaggtcaga 3660

cttgatcggc aagctgcagc ttctggcatt tctctagctt ccccatcccc ctgctcacca 3720

attgacaccg tggtgaaacc tgcggaagtt cagggctcct gtgaagtcag ttccatgact 3780

aaatcgatat agagcaaatt tcaacagttc ttccataggt ggcgcttatc atgtggacct 3840

gactgctcgc ggctggcagg aagggtgtaa ccacattgat cggtgctaaa gcgacttgcc 3900

attagatagt atgaaatcat tgtagatatc gttatacaat ttctctcaga gattcagcga 3960

tagcagagaa gtgccataca cgagctcttg caaggtttaa tttaggcttg ctatttaata 4020

cctagcagag atcggcgggt tctggacttt tcggccttca agccgtcctt gagacccgaa 4080

caaagccctg ccccgtggca ccacagactg ctcaactatc cttgaccaca tccaatatcc 4140

acggtaattc tcatacctag acaagctcct tatcaatatc cgcaagagtg ccattgacaa 4200

tcgccgcagc gtggtggcgc gcaacaaggc cataagcgaa ctggtacctg agaagccgtt 4260

agacatgcca cacaacatat agcagcagaa aacgtactgg tcaagaaaag gcagcagctg 4320

ggcgaggcca ggggtgttcc gccgatctct catgagatta cagacaatgg caaggaagcc 4380

catgagcgta acgccagcct tttccatacg cctgttggcg tccttggcaa gccggccatt 4440

aaggttcaca tcttgg                                                4456
```

```
tttaagataa ttactagatt tctagaaatc tacttaaaat atctttctag ttaagttata   60

tttaaataat agcctctata agtcagctat tattttttat agatatatta atctttattt  120
```

```
ttatagctaa taatgttcct tattttagac ttgttaaacc caacccacgg aacccgcccc  180

aacccgcccc gacccgccaa gaaatgggtt gggttagacc ttctaattat ccattgggtt  240

ttggatattt ttggctgccc caaagcccgg cggacgaacc cgctgggttg ccaagatatc  300

taaataggta tattactgta tttagattat atttgcttac ttagatagtt ataatacagt  360

atttaaatac agtattttat taactatgta gatcactgct tattagagta atgatatgca  420

taactgggtt attttgggtt atttaggttg ggttagaatt atttgctaaa cccatgggcg  480

gtttactgtg aaggtaaccc accccaaaac ccgcgtgggc ggatcagcta ggcctgaaaa  540

cccgccccaa cccgtggttt aacaagtcta gtctagatac tggtcaagga tatactaata  600

acaccctacc cccccaacaa cctctatata tgcctgcatg tgcttgaact tggcatctga  660

tacctagtta acctacagat taaggtcatc ccagccctgg gggtgcataa aacagcctt  720

gcttgctaag ctattatacc ctgtatactt actctcctgg ctgtagttaa gcagtatctt  780

gttatgggat gctcccataa cacgcaccgc gtagcgtacg cggctgtggt cacgtggctc  840

cccatccatc tccaatctct gatctgtcct gtcccgcttt ctcttcttca gcgattccct  900

cttgtacata cggcacgttt agataggaag atccgtctat acacgtccct taacatatct  960

ataactgacc tagatagatc atgtactaga tattagggat attaataccc atgcctaagg  1020

tacctattgc ggcaataata taggtctggc tgctctggaa ctattatatt atacctgcct  1080

agtccagaat agtactatag tatgccttgc agcccagctc acagctgata gcattaacct  1140

ggctctttat attagtatat ataattacct ggctatcacc agcctgctgg atgcgctgct  1200

ggatgaatcc ctgtatatta ggctgtgtca atgataaggg acgtatttag atggatcttc  1260

ctatctagac gtgccgtacg tacaagaagg aatcgctaaa gaagaaatga gaaagaagga  1320

ttgttgttgt gaggaagtct tgtaggtggc tcaccgcctt caggacagcg caggccttgg  1380

ccgagtcact aaggtctaag gtccttgtat aggcaaagga cccataacaa tggtttgcat  1440

aatggccaaa gctgcatggt atacaaagct agatgtatct actgcttttt acaagatcag  1500

aattaaggaa ggtgatgaat agaaacagc attcaggacc taatttagat cttttgaata  1560

gctagtcact ccctttggtt taacaggtgc cccggcgacc ttccaaaagt atattaattc  1620

tgctttggaa ttccttgata tttgcgactc agcttatatt aatgatataa tcattgatac  1680

caatgggttg ctcaaggaac atagaaaata agtcttgcag gttttaaaga agttggagga  1740
```

```
agcaggccta tagttgaaca ttaatgatgt gacgagctac gcccgaagtc ttgattcgag 1800

tgttgcccga attgcgacga gctggtccac taggaaccaa ctgccgattg aatctctggt 1860

ccgggataag ccctgtacag gccgattctc gtatgattat tgctgacttc cggaatgacg 1920

agtcaaggtt ggcaccaacg tcggtccgtg acacatatag gaagctcaac agtcactgta 1980

tattagttct ctggcgaatt cttctagtcc aatactactt gttagtatca cgactctag 2040

ctcgtgacag tgtcataata gcaggccgga tttatggttc ctgaacgacg gtaagcttca 2100

tctaattcta gcatacaatc atacgcatct gttgcattga aatcacaggt cactgacaat 2160

ttaacctagt cctaacccta ccctgcccga tcatccagaa tcaccgcaca acaatctccc 2220

caacgtcctc atcctcatct tcgtccaaat ccctataacc cccatcaact ctccgctgaa 2280

tatcggccag aacccctttt ctcttcctct ccaagaccag tacaagccac cccctaacac 2340

tcacatacgc gacaagtcca accccagcaa ccaccaagta ccaaaccatc gccgtatgcc 2400

accacccagc tcctctatcc gcagcaccaa cccacgcaaa tccccaaatt ccatttacaa 2460

caccaagtag gattcccact cggccaagcc accgatgcat gtaagcaaaa taactcttcc 2520

caccaactcg aaggaaatgc acatgttgga agtatcccag catcggctgg atgagcagta 2580

tgattgatat aagtataagc ccgagaatcg gatgcgggtg catattccgc cccgctgagt 2640

tccagatttt gaaacccaga actgccccga gaagtgcaat cccaagagtg actccctgca 2700

gaggtgcgtg gattttcatt aacgggtacc cgagcggaac agagagggca aaagacggga 2760

acaagaaaaa gaaagcaaga gacatgagga ctccatgtgc aattgccatg tcgtatttgc 2820

tgttgctgtc gtcaccggtt tggtcgacag gatgtacagc atcgaaatca gggtccgaga 2880

agagatcctt cgaagaagaa tctgtgcgcg cacgggataa atcaacaata accctcccaa 2940

actcatcatg gaacgcaatt cgcgcagtga catcatctga tctcagccta gtctcctcat 3000

cttcttcatt tatttccttg aaagcccata cccagcgcgt ctctgcaccg tcgggatcca 3060

tgaatccccc ataaccctta agacaggtga aacattcaat ctccgccgtg atatcgccag 3120

tgacaatatc aattcctgag tgagaaagaa gcgctacccg cgcgttgtgg ttataccgcg 3180

gtggaacatg ccccgggggct gctcggggag aaacagtgat attgcttgga tcggattggg 3240

aagcgtaaac aaggaacata tttgcgttgg ccatgtgggt tccttgcgcg agggctatcc 3300

attctatcga cttctgggct tggattcgaa agaggaggga tgatggattt gatgacgatg 3360
```

```
ggacgctgat gctgaatgtg atgtctgctc gatgtggggg gtggaaggat gccgtgcggg 3420

cagtggtaga gggcactgca gggtgttata atgtgttagt tggaattagg aataggaaca 3480

atgaggaaat acaaggttcg tacctagggc tgatacccag ggcaggagct tatggggttt 3540

catgatgttg aagggaaaac ggtttgacga dataggatag cctagattaa ggttgggtta 3600

atgaacaaga gtaaatgggc gatgtgctaa tttaatgtgc aatggttgat gatatgggaa 3660

gcaatgaacc ggtgatttac tctattggac tagagcttat tccccgcaaa aacttaccac 3720

ctcctagtgg tgctacgtga catcatcatg cacaattttg tcagaatccc gtgtcatcac 3780

aatgccctgt agatacatcc tgtactgtgc tctactaaac actatcaaag aaccgcagat 3840

actcctccct ctccacgacc caacgaaaga ccgaatcatc cctaagaagc tccatttcct 3900

ctttcttcaa ggtcacgccg acttcccaag tctcatcact cacccgacaa gggttaagtg 3960

tacaaacccg ctctgggttc atgtacggaa tcagctgaaa gtgcaatacg ctgcccagaa 4020

caggaccaaa gttctgctca tagatcggca gtcggcggag actagtcacc gagatgtccg 4080

gttcctcgga gatcgacatt gcagcggtaa agactgggtg ccgcgccatg tgatcacgca 4140

caaatcgatc gtcgaccttg tttaggttgg agcgtaatgc acaggcaatt tcagcgatta 4200

ggtaggtgaa gctctcaggg gtttttatttg cctctggaat atataggtcc agtttctggt 4260

cgagcatgac gaagcagttc ccgatgtacc tgctagggat cggcggttgg aggcgacgcc 4320

gaacatcgac cattcgctgc acagtaaatg ggacaacatt tcccgtagaa actgatcggc 4380

tgcggaaccg ggcgaagcac agagagagaa tagccgtgac gatatcatcg gcggagactg 4440

gtgggaagac agagtggtac ctttcctgca attgctgcaa ggctgcctgg cgtaggtcat 4500

tagcatcggg tgttggcaaa tagatcacnc cagtcgtgca gggttgcatc atgcagtagc 4560

tctgccatcc cngctctcaa catcaactcg actggcccgg tctgcggctg caggttctgc 4620

agaactgata gtagcaagga atgcgcgggt aatgatttca cggtccatgg cagctgcaag 4680

atcaggagga ggctggcagg ctgcacccgt tcgacagcac acagctatcg cttcgacaag 4740

aagactaacg ccggaaccgt caatcaccat atggtttgag aagagattga ggataatccc 4800

gtctgcaagc acattaattt ggaatcgaat gacgggcga tgagcacgct gagctgcaac 4860

gtggattggc gccagcacaa ggctcgcatt acgatcatag tacacctcag ttccagtgtt 4920

ggcttgacca gaggcaggca tcaagcatga tgggaggcgg agatgtgtca attgcttcac 4980
```

ggtgcagaga ggggtacgct gagccagatc gtaattagaa gctggacgga tccccatggt 5040

cccgcatttg ccgtctgtgg gcatcacgac cccggccagg aatggaatat gctcaactac 5100

ctgtttgatt gcttcctgca ggacagggac accctgttcg gggtcgtgga gacgaaagaa 5160

aatggcattt cctgcataca gcatgggaag ggagtagtcg gctgcggtga gctcgaaagg 5220

ctggaaagga ggaactgcac tcatctttac cttgtttgga ggacgttttg ttcttcgagg 5280

actgtaaact tgaagaatgg gtcccggact aggtatttat gttataaccg cgcagtagat 5340

cgtacccata cctgcacgga ctatgccgcg tgatgaacta gggccctggt atggacggtg 5400

aaccccctgt ctatctcggc tcgcgctgca cttagggccc cgtaaatgat ccgagatatg 5460

gaaaataatc ctttgttaca taaaaccaat gcgactcgtt tgtcgtatct gccaacttct 5520

tatcccctc cacatactca ccctgtagca gctcgcataa caatggccga ctataacccg 5580

actccgtcct atccgcagcc acagaggctg accggcgctc ttagccagtt caaatacatc 5640

gaatccacac cagccttggg aagggagtat atggaccttc agctgtcttc cattcttgaa 5700

aatgatgaga tggtgcgaga tctggcaatc accggtaggg acttgttctt catgatgaaa 5760

tcagaaagat gagcgctaat gtcctatccc caaagcatcc gagcgtggcg tcctcctgtt 5820

caatgaccag aacattaccc cttttgagct gaagcgactc ctcgtgaaac tggggaaatt 5880

gacaggcaat ccgccagagg ctggcctaca ccggtctgcc ttcccgtctc aaatcacagc 5940

catttggaca tacctgaggt gggaggatcc tgacattttc atcatatcgt ccgtggtgag 6000

taccttgctg gtaggctggg ggccttttct cctctgacat atccaaccct ctagacccag 6060

aaaaagagct tagcagatgc cctgccgaca ggtggccgaa agtttgcgag ctggggatgg 6120

cacaccgagt aagacataac caaacccttg gaccctcaac aactctgacg tctagctaat 6180

aattgcacgc aaatggcttc agcgagtctt acgagaaata ccccctgcg tatacagggt 6240

tcaagatagc caaaagtcct cctaccggcg gtgacactct ctttgtctcc tcttacggtc 6300

tctacgaaca tctctcggag ccgtggcaga agttcgcaga cgggcttacc gcgacccatt 6360

cagcaaaaga gtttctccgc ttcatggaaa agggcatgac ccttgatgga gaactccaga 6420

gaggtcaccc ggaaaatgtt ggccttgagt ccgggcctc gcagtatgcc tccccgctcg 6480

ctcgtatgct agcctcaaat gtgctaaaat gccacttatt agtcctgtcg tccgcacaaa 6540

ccccgttaca ggttggaagg gtctcttcgg agtgggcttt ggcctcctgg atggtcactt 6600

11914

```
tgacaatatg accgaacatg aaagcaacct gttgaaagag tattgtatgt ctgattagtt 6660

tatactaact gttcattcaa cccggctgat atgagaacag tcctccgcat gatcaccgat 6720

agctctgacc tccaaactcg taagcgttgg aacgacaacg gtgtcgcaat ctgggataag 6780

tatgtgccat gaatcccttc ttctctgccg ctacagtatg atctgacaca agcctagccg 6840

cgctgtgcat cacaacccaa catagtaagt ctgcctaaat cccattccaa ggttgaggtc 6900

tgtcctatgg gaacagttcc attaatacgt gcgttagcga cgtcgttgag ggagaacgtt 6960

tgactttccg tattgcaggt attggagaga agccctacta cgacccgagt tctgcctcca 7020

gggccgagtt tcttcgcaat aattcctaat ctatgtcgcc gaatttgcag tatccatgtt 7080

aacgaatcaa tgcatcagtt tcgttaccaa gtactaaatt gaaatacgca tcttgtttcc 7140

caactgtaat aatactttct tactcccatt gaaagactac gtaggcctct attttgagtt 7200

cgcaaagccg aagtgggcgg gtttactgca ttttgcatgc attgtctcac caccatgcct 7260

caacagtgga ccataccaaa aagtatcata tcttagtcca ctgctacacg tccaatcgta 7320

actcactgac tgctgctgct aggaaggagg aagaaaagaa tttgggggaaa tgatatcagc 7380

cattgcaatc actaactcac agttgttgtc aaattccgaa tattcttaac ctgttatttt 7440

ctatctccgc gtatacttag caccoctcta agtttcgtgg tcaaatcgac tacataacga 7500

aattggtttt acaccctcta ccttcctcat cgcctgactg aaccactgat tccacctgtc 7560

ccttcctttc tctaaactta acaaaaattg gttcttttgg gtgcgcaaca aaatgatcct 7620

tccactcgtg cctcgacgga acgggatcac acagctccaa ctcatactgg ccaaaaagat 7680

gggtgagggt cagacgaagc tgaatttgcg caagactatt atatacgtaa gtgtgcttga 7740

agtttgcctc gaggggataa actaagagaa cacttcttaa tgcga        7785


<210>      5796
<211>      6549
<212>      DNA
<213>      Aspergillus nidulans

<400>      5796

cagtaagcca ttaatgccgg ccggccaaag catcccccgt cgcacctccg aagtcggttt     60

ttgtcaagat ggaagcccgg aagagagctg ccacatatga gaatgattcg gcccctccct    120

gaagaaacag gccacatcgg tcaatggtgg taataagcct catcccgatg ctgatatgcc    180
```

```
atggaaagac gatcttgagg taagtctttg gccctttat gtgggatgaa gtctcgcagg    240

ggttgcacaa aaattgattg atcattgggc agttcactga ctgaaggttt ttgtcattca    300

acagcgattc cagaaggacg ctatctggcg tcaaatgcag gaatacaaac gtgacaaggt    360

atccctggaa gcgaaattaa aggagtcggc gaaggccacc gcctaccacg gcgaccatct    420

tcgcgtcatt gatgcttggt acaaccaagt aagtagaggc gtattgttta actgttatat    480

attttacatc aatctaacca atctcgcagc tgattgacga agtcaaactc ctccttggta    540

gtcccgacga ggatagcaag ggtaggtttg acgctgctac ggctctctat atatcaacaa    600

gaccgttaac tgtggcatag atcgctcttc attccaaagc gcgctgcagt ttgaggattt    660

ggataatttc gagcaacatt tgaagtctcg ttctcatgat atacgcgata tcatatcccg    720

ccttgtcgcc aagtctccaa caagcccacc cgaggtctcg gacctgcagt ctcagcttgc    780

acgcaaattg gctgaagaga aggcaactct tgcggagctt agcaaagtgc tatctgaaaa    840

gcagcagtta gaagaaagcc tggaagaggc tcccttacga tatatggttg ccgagaagaa    900

acttgatcgc gcaagaagct tgactgtcgc caaattagag aagcaatata tactaggcgc    960

ccagcgacca ggtggtgata gtgcgtctgg gaatcgggat gagccgccag ctacaaacgg   1020

cgccactccc acgggtgaac gtacgccaga tactgacgag acatacagca agttggcagc   1080

catttctgaa aagcagaagg agcagataca gaaattggaa gctgagaatg caaatctact   1140

aagccaaatc acggagataa gtattaaagt gagaaacctt atatcgccta ccctgctgcg   1200

atgctaatat atgcgatcta gaaaacgaaa cttacggacg atgattatgc acatacagat   1260

ctgtttaagc agttgagatc gcaatacgac gatgtggtga acgactaaa caacctagag   1320

gcggttaacg tacagcttcg cgaggaggca gcgaaattac ggtccgaaag aactgcatac   1380

cgcaatcaag tcgacgaaga aacacagatt gttctggccg agaaagaagc acaattaatg   1440

aaaactgaaa acgatttggc acggatacgc aacacacgag atgagcttct tgctgaccag   1500

caaatgcgga aatcggcaca agagcaggag aggacggcgt cgctcaaaat ccaggagcta   1560

gcagacgctg ggaaagctca aatagctgcg ttagaatctg aggttgagcg gttgcggata   1620

gaagttggac gagagaaggc gaaacaagca gacaccaacg acatcacgat cgaggatttg   1680

cgcgtcaaat acggcaatct ggaacgccag tactcgatgc tcaatgcgga actggcatcc   1740

atgcagactg cttgcaagaa atattcttca ctggcatctc aaagagttgc cgagttcagc   1800
```

11916

```
gctatggaag aaaaggtgtc tcgcctagcg gcggagaagt caaaggcaga ccaaaaatac 1860

ttcagcgcaa tgaaaagcaa ggaagcccga gacatggaag ttcggacgtt gcggatgcag 1920

aattccaaga gttctgatat agtttcgcaa ctgaaggaat cggaagcagc cacgcggtct 1980

ttactcgcca acatggaaaa gcaggtcagc gagaccaagg aagcattaaa cagcatggta 2040

aacaagtacc acgtatccca gcaacaaatc acagagaata atatcgtgat ggagggtttg 2100

cgagggcaga tcgcagagct gaaggcacta tcggtttcca aggattcatc cctggcgtcg 2160

acgtctagtg cttgtcgtcg agctgaaaca caggttgaag ggctcaaagc atcacttgca 2220

gatacgaaga aaagtctgga gaactggaag aacaagagcc ttgggaactc gtcttccgag 2280

tatgagatgc tgagggtaag cacaccgtac ttgctaattg gaagctcaca tttgctaact 2340

ttccgacaga ctttagctct ttgcaccgtt tgtcgtcgaa acttcaagaa cacagcaatc 2400

aagacatgcg gacacgtctt ttgcagagaa tgcgtggaag agcgactaac gtcccgatct 2460

cggaagtgcc caaattgcaa ccgctccttt ggcaataatg attatatgca tatcacgctg 2520

tgacctttcc ctggtcgatt tcgcaccctc accttcatgt atcatagttt cttctgcttc 2580

tctttcctcg tttcccgatg tttgggttta ttacttcttg cgtttacgct gattttaatc 2640

tatggaaaag gctcatggtg cggtgttttg tctacggttt agcaggatag gtactctggg 2700

gctggcgttt tcactcttgt tgcctttat cgaactcctg gtcttggggc tctgtttctc 2760

gaacctctct ttctttcgat ctcgtttctt ggatacctac ggtgttccgg gtatctcaaa 2820

ccacacaagg gttgtgtcgg ttgtaggact agcaaggagc ctttgcatgg agtcatggga 2880

atgacgatgg cgcaggatta cggaagtttg tctttctata ccacttgtgg ttacagcacg 2940

gcagtcgatt tagtcaaaat attatgaatt aaatattctg ctataaagaa gctcatggcg 3000

tccaacccat aaatctagcg ggggcactac ctgtcctgcg tcttctatag cagtgtgcca 3060

atcccggtct attcgttcag taatcatgtc ctgcaagtct ttgctagcta gcacactctg 3120

cgcctgatat gggcccatta ctgacgctcg aacagcagca ctaagaacag ctttggcgtg 3180

gttcaacatg aacacgtacg ctgtttgtcg agcaccattc ccatggccaa gcacacagca 3240

ccccacagcg gtgcaaaatg gcccttaacc cctagctcgt cgtccataca gcatttcaac 3300

gcttctgaaa agtccgcgac ggccttgatg ccgctctgca cccttgagcc tctgagttga 3360

cagttcccat taccatgcgc atatgtgctt cgaaatgccc gctcccatac acccagcaat 3420
```

```
gcccgtccct gcgcgatact cgcacgctgc gcaacagggc atggtgttga tgcgtcgaga 3480

tcgttatcca gcgtttcaag ctcgattggg ttgcggtagg ctgtgagcac gtaagggagt 3540

gagatacttc ccattgaggc aatggaaagt ttcaggaagc gttgaaatga ggcaaccggt 3600

gttattgtgc gagggagagg cttttggtga gctatgtagg attctaagcc gctcgaatag 3660

gcgaaagagc ccaaagggag ggcggagtct gataagagta ggagggcatg gtatgtttcg 3720

gaggaagaaa ttcctgggga aaaataggaa ttagccgaac ccaggacaat aattcaaaga 3780

caatttggtt ttgtttagat agagtatctg tgaaaaccat accgttcggt ggaggctgcg 3840

gctgcggctc ggagtcgcgc ggggcggaaa cctgggctaa acgggacttt gcctttcgta 3900

aacgcgcttc gagatctaga atctcttgct ctatgtcatg gatggtagga gtgcctgtca 3960

tgtcgcatac taatcataaa gaagacgaag aaggggagca ttgcgatggg gaaaaggttc 4020

tcgttctgca attttgctga agattagcca tttcacagtt tcatagataa gcaactgata 4080

agcttcggtt cagactgagg ggagtcgaac aagaggcggt aagctatggc agaattgact 4140

cgaaaagaat ctctagaaga tgacggaaac aaactacagc aaaaccaacg ggatttaacc 4200

atgcgagtgc gttgattacg ggcacttatt gatattgaaa tttaatttta tattcttatc 4260

agtgcattgg aacgttatgt caggcaagcg tctgctcgac gctattcagt tcctaaacgt 4320

cgccaagtcc gtcgcgacaa agcaccttgc ggtgcggcaa caacagctcg atatatttac 4380

cagaacgtca tctcttacaa aaggcattaa gagccaaact gatgggctga ttcttacagc 4440

caaagcagct gcggcgcttg ctaagcgctt caatgatggt tctccatctc aatcttccac 4500

cacttccgcc cgtccttccg aatcctcccc tt  cngcag  aacac       cc 4560

gaagataccg tcatcagtta ccggtgcaag tacaaataac ggaggaggtc aactgaaagc 4620

cagtccacag caggaggaat tctatcaacc ttcgcgggag ccggctgcag agccggccgg 4680

gacgccgcgg gtgaaagtgc caaaagcgac aagtgatact caagttgggt tagacgaaga 4740

tatcaatgcg gatgtatatc aactgtttgc gaaggcttca cctgaaagaa atactagcgg 4800

acacactggg gcagatcgac taaatgtgag tgcgcagcag gaggagactt accggcctgc 4860

gccggaccct gctgcagggc gtgccagggc tccggatatt gttttaccac aagcaacaag 4920

taccacgcag acaatgacga atcagggtgt caatgcagac gtataccact cacccgtgga 4980

tcccaaggcc gagttgcaac agcaggacct tccagatgaa atgataagag aattgtttca 5040
```

cagcccaaaa gtggctcgat ctttatctca gaaagcagca gctgactgga gattccgttc 5100

catctatgca aaagaaaaag gagtgaagca agccgaagaa caaattgttg aaaatgttga 5160

gccacgttta gttgaggata ccttccttcg acctccaagg tggacgcaga gattgttgca 5220

gagctcaaga aggacgaaga tacctataaa atggttgaat cacgagtccc atcttcccgg 5280

ctaggccgac tctggcagta tggtggccta gcaacttcta tggctttcgg agccgttggt 5340

gagagctttc gcagggtaac agggagcgct gaagcggctg ctggatcact tatgtttagt 5400

gccgggaata tggagcgtct tgtagctaag ctatctaaaa tgcgtggcgc tgctctaaag 5460

ctaggtcaaa tgatcagctt tcaaggtatg ttttgattct ttgcctcttg aattactgct 5520

tatgagtttg tagactcaaa aatgctcccc gactctattc aacaagttct ccaaagagtg 5580

caggatcgcg cagattacat gcccgcgtat caacgagata aagtcctgac agacaacctg 5640

gggcccaact ggcgtgacct cttttcgtct tttgatgagg tccctatggc agccgcctcc 5700

attggtcaag tccacggcgc taccctcaaa agtacagggc aggcagtggc cgtaaagatc 5760

caatatcctg gagtcgcaga ctctattgac tcagacctca acaatctctc catcctccta 5820

acagcgtcgc gcatcctccc ccgcgggctt tatctcgaca aaacaatcgc caatgcccgc 5880

acagaacttg cctgggaatg cgactacacc cgcgaagccg aatgcgggaa ccgcttccgt 5940

gagctcctca aagatgaccc ggttttctac gtcccgcaaa tcatccccga ggcttccggc 6000

agaaacgtcc ttacaatgga gcgcctcaac ggcatcgctg tcacaaagat ccaaaccttc 6060

acccaggccc agcgtgactg gatcggaacc cagatcctgc gcctgtgtct ccgcgaaatc 6120

acagagttta aatacatgca gacagaccct aactggacaa acttcctcta caacgcctcc 6180

accaaccgcc ttgaacttct cgatttcggt gcctcacgag cctacccaga ctccttcatt 6240

gacaagtacg tccaagtact ctgtgcggcg tcccgtgcag acagggagac atgccacgct 6300

ctctccatcg acctaggtta cctaacaggc cgcgagtcca gcgctatgat cgacgcccat 6360

gtctcctcca tcctcaccct cgctgagccg ttcatggatt cctcacctga cgtctatgac 6420

ttccgcgacc agacgattac acagcgggtg cgtgatttga tccccgtata tgataggcga 6480

acggcttgcg cctccaccgg aagagacgta tagtttgcac cggaggctat tcggtgcagt 6540

cttggtctg   6549

<210>   5797

11919

```
gtggtagtat ccaactgggt aaatgcttga cgaatgcgaa agttcatgga gctctctgtg    60

agaattatgt cattaatgta cagtgtactt aattatgcat aaaatttatc aatgctcttt   120

atagatgctt taatttcaac gctaatcaac aataaggccg gctggcccaa ttggcaaggc   180

gtctgactac gaatcaggag attgcaggtt cgagccctgc gtcggtcata ctttttgcat   240

tttgcgcccg ttttcgctaa atggtggata ctggagtttt tgtggagcaa tggtgtgtgg   300

cggagccgct acacccgtca atagcaacat cactatctag gctttctctg ggctgaaggg   360

ttctggacgt ataagttcca ttccagttga gatacgcgcc ataatttgct atcttgaggg   420

gcaaggctgg tacaactact aattgcagct gattcgtgcc cctcctgatt cagcatacgt   480

ttccgcatcc tgcctgtgcc ttgtgtaaat cttggcgctc gatggtcctg caagaagggc   540

aaagtaagat gggtgcagcg cgcaattgct cttgaacccc ttgtcagtga tcagctcatt   600

acaaatgcag cacgtggtcg gcattgaata gttcattgcc tccggtttgc cagcaatgaa   660

taagacagca gcgcttcata cggcgctact gtttgctcaa gctatcattt ccgggcagct   720

actttggtac atatagctgt atatggctct ggagtatatt acacataatt ctgaattatc   780

aagcacaacc agtttttagg actcttccca tgatgaccac cgaatacaga aaactgcctg   840

tatatagatt gcgtaaggta ctatgaaggc agcagtcttg caaagttata gattgccctt   900

gttctacacc ttgcatatta cttatagtcc tcgggatcag gaatgccctc agggccataa   960

gaatgctcaa ccaaggtttc tccaaggtat gactagagat tgaagtcctt ttaccaagaa  1020

ctgattgccg atatcatccg taggtttatt aatattctca atatcatgga ggcggtactc  1080

ctcagctagc atccttctca atagttgtaa caatatagtg cattcacaca gcgctacatg  1140

ccttacctaa cgagaaacgg gatctggtca gccctttgg tgaggttaag ctgagagcag  1200

caatgctgta tttatggccc agcactcaga gtaaggccac cagtcagtgc tctaaatatg  1260

gccgggaaaa ttacgacagg gctgctgctc gcatttcaat ttacatgtat acaccatatt  1320

tccaggctca gtggctgtag attcatgttc ctccaaatgg ttccgtagac agaagatgaa  1380

gtagattgca tgttgaaaca gtttagtagc cactagtgac cggattcact tcgggctcga  1440
```

```
catttgaata ccacgcagca tataggaaat cgaactccgg gttagcagag ccgtcgaaaa 1500

tagtagagct gttgagaacg caagctttgc cattctgaat ggcaatgaca gtatattcag 1560

aacggtaaca gataaccagc gttccaacat gccagccggg tttgactttt tgactctttg 1620

tacgggagga aaagacccct tttcgcagac tagcaagttg tatagttcga tgaccttctg 1680

agctgtgcgg acaggtcaag ctccgcaata tatattgctt gaggatgtcg cggatccgga 1740

gcttccattt cagattgcgg atggaaacta ctttccccga gacgaattcg gatcttcaga 1800

ttgcattgcg aaaaattgcg accaaggaag aaggtgaaac agacctaagt gatataagta 1860

aatgtgattg atcttgctga ccaaaccata tgcgaatatc tggaggctcg cgcctgtcta 1920

ccggtctctg cgtactatgc attttagata tttagcttgg gtacatgtct tcggtcggaa 1980

gtggtatcgt ctgccatccc tttttgccct cgccccgtgg aacggccacc tgaagtccaa 2040

gccgtccaca aaaagcatcg tgtctagcga ctcgttcgat agtctggaga gaaccttctc 2100

cattttcgtc aaatacaacg atagtgtcct gcacaatttc cccgggaatc tcgtccagtc 2160

gggcattgaa ccaaggcaag ccgacgaggt ggttgccgat ggtgtgaatg ggagtgtaga 2220

gcttctcgaa gtgacgcgta gtccatagcc acgacagagt ggtcgcatcg tatgaaacgc 2280

gtacaaaagg attcatgtat ataccagtct cggcctgagg ttcgtcatct tcactactgg 2340

tatgcagtgg tttctgaata tcagcgtgga tcagacagca ttcggaccca tcccagaaaa 2400

gatcttcatc tcgtagggcg cggaagcgag cgggggtaac ctcccctgct atatcgaaaa 2460

tcggcccggt gctgttttga aagaactgag catcgaacgc tgccattcct ccccaacagc 2520

tgcggacagg taccgcgtct ttcccagcaa ggacgtctct ccgacttcgg ccgttgccag 2580

aggttgagaa ccatggaaag aaaggcaggc ccatgctata gccttccaag tcacgcgtgg 2640

catatgtatc gtagaatttg aaaggattaa taaaatccac agcgcaagcc gcacggtact 2700

gcgctacccc attgtcatca cgttggtag aaaacaagag ctgcagcgcg tcgactggat 2760

caaaagctat gtcattcaag tatagaagtt tgtcaaaccg agtggtagac tggtcgagtg 2820

gtcgaagagc gcggttgcga gtctcggcca agtaggtaat ccgcttgacg cgcttttctc 2880

cgcccggaat agtaactttt aaaagctcat cgagatccaa gtgctcatac actatagact 2940

tattgcattc gactcgcgcg tctagctcct tcagagccga ttccccttcc tctccgctgt 3000

cattttcgta gatgctcagg aaaacattgt cacctccaag gaggtcgatg agttcaagga 3060
```

11921

cgctggacgc ccagtgaccc cgtgcaaggc tcccatccgg gtcgagcagg ctagctgcaa 3120

tgaagaccgt ctcattgcgc ggattccccc gcccaggatg gcttgacttc gatacctggt 3180

cgcggagtga tatgtagtga dacggaggtc gtgtatatga gggaaagaat gtggaaaaga 3240

gaagtccaag gaccagaacg gccgatagag cgacaacgac atagtatgcc agccggaata 3300

gaacgcgacg gtaggcgcga gactgagtga aagctggggc taaaggccta tagccgcggc 3360

cgtacctaac cgaccttacc aaaagataca accgctgcaa gacccgttcg agcagggact 3420

gctccttttc ggcctcgtag agattgtagc taccctggga ttccagagag aaccgccgat 3480

cagggctata gctgggaggg tgggcagaca tgatggcgga agatcatccg tcgatggtat 3540

actattcttg tcatctggag caaggatggc gaaaaatgta taccggcagt cagaagcgat 3600

ccattgcaat gagcgatgtt gagaattgaa cccagaagag accgagctcc gcagttcttg 3660

gtgttctctg cgcagtgaga gccagacgtt ccagatcaga tttggttagt gcaccgtttt 3720

gccgatatct gccattatag gactagcgcc ttggctgcga tatcaagctc atatggaacg 3780

ctcagctgca atagcatcag agacacggcg ccgcattgtc gattgctcat gagggtacat 3840

tggtccagtc tcacagctgc tgatcagtct tgtggaggta ggaacagggt aaattggggg 3900

cgaaaatacc ctgtaaggca aaggatgact aggtacttga ttagctggga caggcttacg 3960

aataccacgc cgtacggcct cgataccgta cctcaacaat acgttgacat aggcttaccc 4020

agtaaacgag ttaccaggct gtacacaacc tcctttact gtaccatgaa gccgaaataa 4080

cagcaagatg caaggcatcg ttgccctagc tgtcagtctt actctaggag ccatgccttg 4140

tttgacctcc ttgaagacga agaggtcctt tccaccagca cccttgtcta ctgcaacagg 4200

tatgagaagt aagtttagcc gggcaccaga gaagaataat tccttttcg gattcgactg 4260

acagcgtctg ctatacagct gaaaggctcc agcgaaccct ccgcatttac cgactaccag 4320

acagcccttc gcaacatcga cacctcgcaa tccatgctaa ccagaccgga ttctctgttg 4380

gcgacgactg tgtcgtctac gccagtgacg gctcggtgag cagaaactag cggccagaag 4440

atctatggca tcgcaatgac catcctagac aactgcagcc accataagga gagctatgca 4500

caacaacagt ggcgagtgcc atgttatgat ccactatcgc gtttcgagaa attcctatgc 4560

tatatagtag ctcactgtag ctggtctgta taaataacc gcagtaactt gtactaagat 4620

tactttaggg cacaatgata cagtacgtca caattactcg ccctgtgcaa gacatgagtg 4680

11922

```
aacaactagc tgaagctcct agctagcagc tccgtaattt gaatctttta atcatatatt 4740

atcaagagta gtttgagaag cgtactttat cagctgcatg taattcatac cagttgctgc 4800

ctggccgacg gcgctactta gggcacagcc gccttagtga aatcaaacta acacccgaga 4860

tcggaggctt acgctatcct agcgaggtaa atcgcatcct tgaccctgat gtatagaagt 4920

ctgcaggtcc cgaaattgat actagactct caaagtagat tgggcatccg aacgtggaaa 4980

tccagtagag gtagtgagag gattgtttaa tgtaagccta ccattcctcg taatgagcct 5040

cgtcgttaaa agtaccaaca ggggattgta gttttgcgat gttatttctt acgtctacca 5100

gttattctta tttcggaagt ctatgcctca aacagcttag gtactgctac tgcagctact 5160

tcttttgcg gaatgttacg tatcctcaag catcctcatc atggactgat tcttgttaaa 5220

ccagtcccag agctcagcac ccggtaaatc atctgtaggc ccacgtcccc gaacagcccc 5280

atgcgctcgg cagtgtgttt gacaaatttc caacggcttg gtgggtaccc aacgggagac 5340

agattcacaa gaagacaaga tgcagcgtgt tcaagcagcc gcgaaactcg cctttgcaca 5400

tgactttatc cagaacctgc cgcaaggata cctcacgcgg atcggagaac gaggcagcct 5460

gctctcgggc ggccagaaac agcggattgc cgtggcccgc agtatgatct cggagcccaa 5520

ggttttactc cttgacgaag cgactagtgc gctcgacccg catgccgaag gaattgttca 5580

gcaggctctc gacagcgcct cagcgaaccg gacgaccgtt atcattgcgc acaaactcgc 5640

gaccatgcgc aatgcggata agattgtggt catgtccgag ggcaaaatcg cgaaacaggg 5700

acagcatgag gagttggtag ttagagcggc gtctatgcct cgcttgttaa agctcaagac 5760

ctcacgccgg ctaatgtcga aggaaatggc aacttgggag agacaagcac gtccgacgag 5820

gattcggagg agggaaacat tcaatctctg ctcaggccgt ggacaacaaa tgcgcaggcg 5880

cagcagctgg cggcactaaa ggaccaagaa gacgacaagt tatatgaaga gacgggaatc 5940

attcataata tatggaaact cctgacaggg acacccggac tatggctttg gttcgtcgtc 6000

acaacagcca catatatcgc aggaggtgag ttttcaacag agaaaggctt tcatagttag 6060

ccctaatttc tcgcacttgc tcacctgtgc tatcgcagct gccgtcaacc ccaggcaaat 6120

tcttttgtta ggcaatatcc tgagtgtctt cgattctccc aacttcattg ctcgtggtaa 6180

tttcattgtg ctgatgttct tcgtcatgtc gattggcatt ctcgttatat actttgtggt 6240

gggctggtct acgaatacta tcgcgcaggt aagagctgaa cttcatgtaa cttgaggcgg 6300
```

ttgatgtcca agttccgttt tgatcacatt ggcaaagctg acccaagcgc accattttag 6360

accctcagca gaaagctgcg tcgagtgatc ttcctgtcct ttctccgtca ggacctccat 6420

tttttcgatc aacctgagaa cactgtcggc gcactgatca gcagactcga ctcttacccg 6480

caggctatac tagaactgat ggggttcact gtggccatca tcctcatgtc ggcaatcaac 6540

attgtcgcat cgagcgttct cgtgatcgcc gtgtcctgga actaggtttt agttggtgtc 6600

tttgctgggt tgccacctat gatggtagga ggcctcgcgc gtgccagaat tgaggcgaaa 6660

atggacgagg aggtagggca gaggatgtcg gcaagtgcat cggtggcttc agagacagcc 6720

ctggccatcc gtactatgtc atcgcttgta ctcgaaaaca cggcattaaa gatgtatgtt 6780

cacgagcttg atatggcaat ctcgcagacg agccgggcca tgttccacat gatgtgattc 6840

tcgctcacgc aatccgtcga gtattttgtg ctagcgctag gtttttggtt agttttgcct 6900

cctatattaa ggggcgtcat gttgatcgat tcccacgaac agatggggat caaagctgat 6960

caatgacggc gaaatcagct tgtatcaatt tatcgtttca ttcatggtcg tttacttctc 7020

cggtcaagac accgcgctgg ccttcagttc gccagcagtg agtatggcca agcgcgttct 7080

ggcctatagg gatcattggc aggttgggtc acctggattc accaagggaa accaagctgc 7140

caactactac ttctggcttg acatgatcga cgggacagtc cgtggaactg acgacaaccg 7200

caacgagggc cctaaggacg gatgccgctc tattgacttc gaagacgtgc gctctgctct 7260

gattttttcgg attgaaccat gtccggccca ctaacactac ataatccaga tccgacgcgg 7320

cgcctttata gccctcgttg gcgcattggg ctgcggaaaa gtaccatga ttttcgcttc 7380

tcgagcgctt ctacgacccg acaagcggct ccatagatat aaacacgtca acgccgctgc 7440

caaccctaaa cccgcctatc gcagacaatt atcactagtg caacaggaac caactctctt 7500

tttgggtact atccgcgaga acattttgca gggcatacca gacttcggcc tcaacgcatc 7560

aagaacagaa actggatcaa actccgactg   7590

<210>   5798
<211>   6660
<212>   DNA
<213>   Aspergillus nidulans

<400>   5798

ccatacacac aaaaagcccc agctgtgcct cccatattca tcgccacatt gaaccatgca   60

```
gtaagcgtgc cacgtatctc gcttgggcga tctcagcaat tgacattggc ccgatgacag  120

tcagggctcc tatgcccaac cctgagatga tgcgtgaaac ataaagccca ctcagagtgg  180

gcgaactggt tgcaactacc tgaccaagaa tccagatggc agcgtacagt cgaaagctcc  240

aacggcggcc gagaatatca ttgaggaaaa aggaggctcc tccaccgacc cctgcgccga  300

cccagacaat agatacaaag ttccgattcg caagggcgct gttacccgaa tcaaagtcaa  360

attgctcttg gaagcctggt agtgagggta tagaagaagc agaagcttgg tcccatgcta  420

ttcatactgt gagtaccaga ggatagagct tctagcgttc gttgacttac ccagaggcac  480

ggcggacatg gcatatagta tgcatgagaa gagtaatgtc cgattgaaga tcatctcacg  540

aggtgcattt cttacggcgc ccacatggtg ggctagggat gagccctgga agaattttct  600

gactgccatg ctcaactgcg atggaattct gtctagcaat ggtattatgg gttgttattg  660

ggtaagtcat cgtagtttat atgtactcca actcgcaccg gaagaatacg aaggtagtct  720

ctcattggct ttgtttgtac tatcttatca tcctggcaaa tgcggagtaa aacgagattg  780

aacaacaaga ggataatgtg actttcctac catgtcttga acggcatatg actgtagtaa  840

atggcaatga taagctgtct ggttgcatac cgatgcaaat atagagttca gccatggctt  900

tctgtgatac aacctcgttt atgcccatgt aggtgattca gagtatgaca gccctctata  960

tacaggaccc gtatgctgtt ctgcctactt ctgctcttaa acaatatctg gtagttctgg 1020

gaatacaaaa tcgtcaaaaa atccattcag cagccggtca acacctgtgg aaatcccggc 1080

ttcctgggag atcccagtca tccaatccaa taagtatgat gggaagatcg tatcgtgcct 1140

cgctgtcgtt tgtacggcgg tcgctcctgt tgccgtctga agtgcgtttc cttcctgcca 1200

acttgtcatg atggtcattg tgttgtttga cagtatctca aaaacatctc tataaggtgc 1260

cgcatccttc cactgctctg caatcgcgac aaggaccatt atgcagtcgg tgcatgtact 1320

actcacgcga tctggccgta tgacctccct cgcagtgggt gatatccaaa ggcagtataa 1380

gtatgtcaaa ccagcaatga aaagttcgtg cagagcgctc catgtatatg tcgttggcgt 1440

gccgataaat tgtcgccgaa acaacggca gctactttcg gcggcttgaa tgcactccaa 1500

gatgatgtca aaaggcgcgg ggaccttaac attcgtaatt tgtaagcggt atagctgcaa 1560

gagggtatag ttgtagctac attggtacca gtctggcgtt gtaaagaatg acagagcccc 1620

gacggccggt ggggtgattg gcgtcgatgg aatagaggtg ttccaggttt ttaggacttc 1680
```

```
gcggagattt tctatctgct tactgcgggt ctcagtgtct gaggcactcg tgaggtctgc 1740

gtagagcgcc gtctgaatac gaccctgaag agcacggatg gaaaatccag gattagcgta 1800

ggttaggaga ccggtaggtc tggggtttcg tgacccatct gcatcatatt cgacatccaa 1860

tggaaactgt aaggtggtat tagttcggtg catattgtac gactgtggaa tcaaagacag 1920

ggcctacttc tgcatcaatc tcgttatagt tcagactcag gggacgtcca agcatgactg 1980

cagccgcaca ctccatagtg taagcgctcc agaaagttcg tttttgcatt tcaacctgag 2040

ctgggctgac attcaacccg agacgtctgt ggttgcgatg gtagccaagg ttgatgcatt 2100

ggcgaagggc ctgccctgct agtttcctac atagagtcag tcaataagca atatcaatta 2160

cagcttggag attaccaatg ggatgtgcct ttcgaagaac ggagagagta ggttgcactg 2220

cagagaattg cttggatgca ctccaggtta tcatagcaca ggatatcatc gatatagagc 2280

aaggcggacg cgtacaactg ctccggagag tatccagagt ttggcagtaa cagtgcacca 2340

acagcgtaag cctaatcaat gccatcagca cgcttcccaa catatcgtag gtctactagc 2400

cttcatacca tatttaagaa gtaaagaggc actcgaccgg aatcagtcaa tatggcagcg 2460

tgtgtgggat tatacaatct cgtctcccat tgacggaatg ttggttcatg taagaatggg 2520

tactgagtgt ggatattgcc aaagtatgca tcactaagct gaacagctat ctggtacggg 2580

ggtaaagggc atggttgcgg cggcaagtca ctatactcgc cacttacacg gggaggcatt 2640

gaggtaatag cctgtcgaat gacaggttca acgaagcggg caaaggcaaa ggcagacgac 2700

gagcctaggt aatgaggctc tgctccagct gcattgagac tcaatgtccc aatcatagat 2760

gacaagtcgc tgagctcatt gtcctgaacg gcagttctat cgttgctggg gggtgttgca 2820

tgcatcccgc ggataacgcc ttccagcgtg gcgacacgtt gctccagggt ttcgaggtag 2880

tttctcggat gatgccgctt cgttgccgga tcctctacaa ggcattctag ccatgaatgt 2940

tacctttatg tcagaaccga aagagttttg gggtagcaca cctgtgttat atcggcggca 3000

attggtacag attggcactt gtgcatcgca ctatggctca atatcagtgt cgtgtcttct 3060

acgcatatag aatgtaacat actcgcagtt tcttatcttt gcagccgagg caagcaactg 3120

tcgttctact cccagtacgt acgcgctgca acgcacctct agctggccga ggtttgatgg 3180

gatctggcat gttggtcagg gatggcgatg gagaggtgga gttggggtaa ttgcaagttg 3240

gagatctgtc ttatggagag gagctaacta aaactacttt actcttgtca atcaccggaa 3300
```

11926

```
caatacgaag ggccaatcaa caggtctttg cagcacgtct tcctcggcag ttcccgatcc 3360

acgttattat ctacccggtg gagacactga ggtcatggca aatataatgc gctttctttc 3420

tgctttttag catgcgtttg acattcagtg aacactgatg aatatggcgt ctcatatgtc 3480

cagcaaggcc gcaccaattg tggttgtcgg tgccggcgtc ttcggactga gcacagctat 3540

ccacctcgca caacgcggtt ataccaatat caaagttctt gataaacagg cttatcacga 3600

aacactgtac tcgtatgata acggttgcga cgctgcctcg gcaggtaggt cttcaatatc 3660

aaaacatggt tgtgtaccca agctaaccct gactggagac aataccaaaa tcatccgagc 3720

tgcctacggc tcccaaatcg agtaccaaag cctcgccctt ggtgccatct ctcgatggag 3780

agaatggaac aatgagatca ggtcgggcaa aatagtcccg cccggattca ccaccgaaga 3840

cgtcctgttc gtaaacaacg gcaacctgac tcttacatct agcgagactc tccctgagtt 3900

cgagaaacag acaatcaaga acatgaccga ggcgggactg gcgaataccc agatcgtcct 3960

tacagatcct agcgatgtcg agcgggcaac cgccaacggc tttgattttg ctatcaaccc 4020

gctgaaccgg aagcaaaatt tcggcttgct cgatacccaa ggcggattcg tctatgccga 4080

taaggcctgt cgctttgccc tccagaaggc acaaagcctc ggagtgcggt ttgttcttgg 4140

gggtaccgag ggcactctgt cgaagcttct gtacgacgcc acgtcccggg tcattggcgt 4200

tcaaaccata gacggcgagt cacatctggc tgaactgacg atcatggctt gtggaggttg 4260

gacaccgtct cttgtgccca aacttgacgg tttatgcgag acaactgccg gtagtgtttg 4320

catgttccag ctgccacgga actcgtctca gtgggatcgt tttgcacccg agcgcttccc 4380

tacgtggaca tacgatattc gaagtgggaa gaatggcggc ctctatggct tcgctcgaga 4440

cagcaatggc atcgtgaaaa ttggataccg gggagcgaaa ttcaccaatc cccagacaca 4500

gccagacggt gcagcgagga gcgttccgat cactcgatgg actccccaat caactcgcca 4560

actgccgttg tcagcggcgc aagttattcg aaaatttgtt caggagaact tgcccgactt 4620

gatagcctgt cccacaaagt ctcgtctatg ctggtacact gactcatttg acaatcattt 4680

cgtcattgac tttgtccctg actccccggg actgatgggt gcgactggag ggagtgggca 4740

cggatacaag ttcctgccaa atctttgttc gcatgtggtg gaccgaattg agggcaaatc 4800

gagtccgtac ctctcgctat ggcagtggag acatctgaaa ccaggtgttg caccatacaa 4860

caagatcatg gagggtgttg ccagccaaca gacacttcag aaccagccac taacggatga 4920
```

11927

```
ggataggctt actgggaccg cttgtcattt ataaaggggt aaatgcagtc aatcgacggt 4980

ggtgacacat tcatacagtg taggttttca aggcttacat caacactgca aagctaaaaa 5040

aaaaaaaaga aagaaagaaa gaaagaaaga aaagaaaaga aaagaaaaga aaaagaggaa 5100

gaggaggagg gaggaagaag gaaaaaagat caaggaaagg aacggaaagg atgtagcaga 5160

cattcaaggt ttactgtttt tatcgcactc gtcccgagaa ttgtaggagg ctcattgtag 5220

tcaaggtcac tactaccatg agccgtccca aaaaaagtca ttaaaagcat tgggtataag 5280

catctggagg ctctgtcctt gtcctgtacg ccggcgattc aaaatctcaa acccagcgca 5340

tgttggccac tgctcatctg cagcttcatt accccgagtc acctgctaga aatttgagct 5400

agaagttgaa gatatgggcc tcgaagcttt aactggactc tttcgcgaaa aggaacaatt 5460

cagagtgctc ctcggaaaaa gaatctcatt cctctcctcg acactgcgca tcacaacggc 5520

tgctggtctt cggctgctgg ttcattcagt actagagaca ttgcattagg attccagcgg 5580

atcaaccgca ccaaagctca attactggcc tccccgtccc tcttaagtag cactatagaa 5640

ttgccgacag taaagcgttt gataatgcgc gcgggaagct ttgcttctcc agagactgta 5700

gactattctt agttttgagg agaactcaaa taggtttgac aaacaagcaa agtgcacagg 5760

ccgctgacga cggacaaacg gaacgcattc agatccaaag catacttgct gttgacgtat 5820

ctgaggaaac agaacgattc agtcgaagat ctgttacatg ctgacttgag cgggaccatt 5880

gctggtcgaa gccgtgctgg attcaaatac ccgcacattt cctcactatc cgttctgaaa 5940

tcaactacta tgaattgtga aaagagataa ccacgacaac gggcaagaat gatgacgcgg 6000

ctgcaatctg agttgcaaca aatgagatgg tttccttgga ccaggcaggg gtggaaaccg 6060

gcagcgcgga gcaggttaga gtcaagatat agacataaat tttgtcgagc agcgagcaaa 6120

ctgagtaaga gaagccatat gcgccgcatt cgatgataag cggcaacaat taccctatta 6180

tgcgtgatca cgacgagcgc cgcaccctgc tctacagct cacccacacc cctcccactc 6240

acctttctca ccaaggcggg agattcaggg cggccctact cacccactag agcaacaatt 6300

gaattgacat taacatcgta gctgttcatt cggtagatcg aaagaaccca aacaaagccc 6360

ctgtctggtc cccgtgaggc tctggcatcg gcatgggtcc acatcttcca ccaaggttcc 6420

tgctccccag ccgatcgcct cgatcgtcga tcgtagctaa gtttcggctt tgtgcttccc 6480

caggtctagg taaggacctt gtgagttggc gtcatgctta aaccaacaac aagcgccagt 6540
```

11928

aaacaattta tgttcaaaga agtacacagc cgcctgacaa ctgggcggac agcggtatcg 6600

aagtatgact gaagtgagcc gaggcttact gcggcttggg ccctcacaat aaattaggga 6660

<210>   5799
<211>   6469
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations
<400>   5799

aggcattcgc atccttgctt gcttttgtag tgattatgat cggtaggcca tgaaccatac   60

ccatcgaagg gtcatatggt cgtttgttct atcctgccat attttaccga acttccatct   120

atatacatta taaaaggcca caacatttct catctaacta ggccacgagt ctaagatcat   180

cctagtttat tatcattcaa ccgtcctcca ctatcaaatc atcatcacca cctagcagaa   240

cgcttcagcc gccttgccaa ctcgacagta aacaacaccg acacgttcgt ctgcacggtc   300

acgatttcag cccggatgtg attacttgtg cttagttggc cgccaatttc agtttgccag   360

ttctgtacgt cccactcgaa acccgaggtt gtgatccttg ccgggccaga gacaggaatg   420

ataccaacat tctcctctag cagatgcttc ccgtgctctt cgtctggcgt tggtatagga   480

ggcgattggt atcggtcagt ggaacggggc cgatttgtcc taggcacgtg gattgtgttc   540

tgacctggtt ggagaacgaa cgatatactt tcctcggata tcagataaag atctccgttt   600

gtttcggctt gattctgatt catcatgtac agatgatgga cctgcgagaa cgcctggtcc   660

actcggccgc caagaccgcc aaggatcaga atcgatagtt tgtcatttga agataacccg   720

gctgaagaga ggatgtcact ctcatgttta cgtatatacc gcaagctctt ggtgaaatcg   780

gttgtgtact gatcgccatc ttggacgata ttcacgccta ggtttgagta gtgggtgcgg   840

acttcggaac gcgccgaatc catgtcaccg actattgttg ttgggagcta aagcttgtta   900

gtcgttcctt tgatcagagt gggttggaat atatacgcag gtggaacaag cagcgtacat   960

catcattctc cctgcccttg gactttgtcc actcgaagaa ccggtttgca ccaccgtctg   1020

cgcagacagt tatgagcgct atcataccat tagcctggct agtttgcgat gcgtcccgta   1080

atgtttgata gtgcactata ggctcgggac atgctgacag ggataagcgc cgggacatac   1140

catgtttcca caagacagca agagcggtct catttatcgg ctggttcagt accagaagga   1200

caaatggttg tcgtggcgtg tcatcctcgc ggaagaactg cgttgggtcc cattccatag   1260

```
tgatatcggg gttgtttctg ctaggctgtt agtccagtca atagccttgt ttttctgatt 1320

accatacctg gtttccagac tacgggccca agtatgacgc ctgttcagat gtaaaggcgc 1380

caacaatgtt aggaacaggt cgatatagag gactagatca gtctaagaat gttaaaataa 1440

aaaagcaatt cccatttggg caggtgggtg tgcttcagct gctgagtcag cgggtatgaa 1500

ttccatccac tcgttcatgg tcaggttaca ggtcaagtga ttcatcggaa aactcggatg 1560

atggccccac caaatcttgg caacccgact agtcaactga gcctttaaat acagtagtta 1620

attaccgaat ttcattttca attcgtctcc tttattattt cttcgtactc ccaacgtaca 1680

aaccactttc aaagtacttc ccaatcagtt ctagagtgat tttataatgg atgacaacat 1740

agatccagtt gattgggaag aagatattaa tgatattcta tcagatacgt ttgaagagga 1800

ggtaagagag gatgtattgg aggtaaaata taactgtata gctcttaagt actgcataac 1860

taaatatata tcttaggacc aaccaacaac tttgacagac cttaccgatg caaagttaca 1920

ccctttacag acgctctata ttgaatatat agatgacctt cctgagtatc caaagactca 1980

tatcaatggt catacgtata tcattgcagc agataaaatg tcacaatcag aggcggagta 2040

acaagttcaa gacgtaagta cttcagaact gttccgtaac cgcttaagaa ctgtttgtta 2100

attgcttgaa gattcagtat tctcgttcaa gcctccatgg gctaagacat atcaattcca 2160

gtttcttgaa ctgtaaggtt aagaaatgga gttggaaata tttgggagct tttgtctgta 2220

aatatatcaa gccaagtctt cgacttcttt attatacata ccttgatgaa aaagcatggc 2280

aagaaatcca acaattcgg aaagatattg accttgttga aaataatatt tggaagagga 2340

atgtattcag gtaagtactt tggaactacc tggaaactaa atgccaatta cttacaagga 2400

attgcttcta ttcagtcttt attgcttgaa gaagagattc ttcaacagtg gcaaagcttg 2460

tatcgaaaac ctttcaagct gtgtgcctgt atttcaaaaa tctttctacc tggtaagtcc 2520

ttggaaactg cttattaact acctactaac ttactaaaag gacatcaata ataagcacta 2580

tctatatatt agctgcataa atagtgtacc aggtcctcta cagaaatatt atcacagctc 2640

tctgaaaggc catacatcaa ttgatcttga attcttagag tggttattta ataagtccat 2700

tctcccgtcg caggaggagt gtgctgttat tgaaccacta acaacacggc gcaaattctg 2760

tggtaagtgg ttcccaacta ctttaaaact gcttggcaac attcggcaaa ccaattctaa 2820

actacttcta gactttgacc atgttcaagg ccccggcaag ctggaacata taaaatgcag 2880
```

11930

```
tgtaatcttt actgcattgg taccagttaa tattcaggaa actctctata tcctctttac 2940

tttacatgga attcatcaac atcctctacc accaccacac aagccaccgg agtagatttt 3000

gaaagggatt gaatcaataa ttagaaatat gcggaatcca agcctaaccc ttggtaagtt 3060

gtctaatact atttgattac tgttcgataa ctagttacca actactcaat agcaaaattc 3120

ctacgaagtc ctgagtcaga ggctttttgt caacagtata atgcttctac accagctgaa 3180

atacatgcct ccctttctaa tattgacaga atatctgcca ttatacagaa ataatattta 3240

cttacatatc ctgaaggcca ggatttcaat agtgtggtat acatatctaa cataaaccct 3300

accttgaagg taagattata aatattttat aactagttgg gagctgcttt ataacaatat 3360

ctagcaatat atctagaaga aataccgtga tcctaatggc attataatat tatatatcta 3420

taaggagcag atcatgcttc taaacaagtt aaccttattt gaagttgata tgtcctacaa 3480

aaggataaga caaaaaaaca tgaatgaggt agtttttgca acctacctac atgagcacgg 3540

gaaaagtagg tattctatag ccagttaata actacttgga agccacttac aaactactct 3600

agttattacc ttaatatata tgtttataaa ccaagaaact atgacaggct actatctttt 3660

attcaaaaga atatttactc ttgttgagaa agtaacaggt caacctgtgg aatttaattc 3720

tatctataga aatagaatat ctggaattat tattaacatg gacacaaaac aatatgctgg 3780

taggtcaatt attaatcagc cacttgggaa ttacttgata agtagttaac aactagctag 3840

gcctggcttg atatcttaag gagattaatc cctactattg ttccctatta tggcaactac 3900

agagtattat tattttctgc caggtttatt ttttctggac tattactaag gttgttggta 3960

ataataataa aggaacaggc gtgtggagtt gcatggcaag tctggttaat tataaatcag 4020

aagaggatta tgatcagtta tgtaacttac ttgcaggtaa gtatttcata aatatttggt 4080

aggtacttat taataattta tcctagtata taaggaccca aaaattcaga attaggctct 4140

ctataaaaag aatgtagtta ttaaagctgg gcttaacaaa aactactcta ggattccatc 4200

atctttatat aattctatac aaaatcatac taattcagca gagcagtcac actataaagc 4260

aaatactagt agtaaacagc ttttattaat taaggctgtt cagaagtaag ttattagctt 4320

actaactact tcctaactac ttcctaatta taaactaact acttgtatta atatagctct 4380

gcaaagcttg acaagcaaga tattatttag tatcaaaact ataactactt tggagttcat 4440

tacttgtata ggacagcaaa tatagaagct aattacctat actatttagc tcataaaggt 4500
```

11931

```
aggtatcttc tctatcaata tattatatta gcaattaact attctagaat cttgaaaatg 4560

ccgtcggtca tcatcagcac atttatcttc acaatctggt tgtatatcat gatcataacc 4620

aaggttaatc tggtgtgtgg ataatatctc tgccaatact tagtaattac ttagtatcta 4680

cttactaacc accttataaa tagttaggtc atcttcttta gaaagcctta taagaccctt 4740

agaggatata ttattttta aggaacagca gcaggcctta gagctggagc aaattaagat 4800

aaagctgaaa aaagaacagg aagaaattta ggttttgcag cttcaaaata aggagaagga 4860

attagagctt atagaaagat ggaagaaact gcaggaaatt gattcataac tagctgtaaa 4920

ctaactagta acttattaga gaacttctaa taattcaagc tctataatgc ctgacagaac 4980

ttctagttac tatgaagata tgtcttattc tttgtctttg tccttgtcct cctctagatt 5040

attctcaaaa aatagaagt acttacaggt attctgatcc ttgcagcagt ccttagcaga 5100

tggatattta ttacagggta taatatagcc cagctctttg atcttcttgc gcatgttaga 5160

aatataaacc taagtagtta gtaagcagct ataaagtagc taacaggtaa ttaatcttac 5220

tgttccatcc ttctttcggg gcagggaagg tagggccgcg gacaggtctg acttagactg 5280

ggcttgtaga ttgctgataa tttgctgctg aacagcttca tgtttatctt taatagcaac 5340

tggctggtgt gcatcttgct cggagaagag gcccttgtac tattctaagt agttagaaag 5400

cagttaccaa gtagttagag atcctcatgt atgcccagat taattatctt gtaagcattg 5460

cgaccccctt tgctctcctc taatttacag tcatgctgat cgcggagatg ggttcggaga 5520

ttattagtgg tagagaatgg cgactaagta gttgtaaaat agttaatgaa cagttgacaa 5580

gcagctagaa aatagttgaa tacccacatg attcttcaca caatcttcgt agcgacagaa 5640

gacttcacca tagtatatga caacattctg attcgcatcc tttgacgcag taaggactta 5700

gcaagtagtt aattgataat gtagtgataa tgaagcctca caaattccaa agtaggcaag 5760

tcaagcttgc cacttttcac ttcttcttta tatcttttga actatttgtt ctgtccaatc 5820

aaagacatta taggaacctt tttccagtca aaaatgattg aaaactagtt gcaggcctga 5880

tgatcgcagc ttcaatgtgt acggtaagca gatgaaattc tgaattgacg ggtaaatgac 5940

actgtgggtc agatgaccct taatttggtc acgtgcagct tagcgagaca cccgacatat 6000

tttacccgcc gcctcacctg tgtactcaac cgctaggccc acacttcggc cgtcgaccca 6060

tagaggttgt atggagtctt ggtaggggtg cttgttcccg tttgacgggc taggcaaact 6120
```

11932

```
acccacttca gacctggttt ggtctagcca ctatttggct aatgcaagct cgacctacag 6180

gatgacgcac ttgctaatct ggatcttgcc ttccgtaggc ggattggtta ccaagccaag 6240

tagatgcctg gggcagagct aaccaagcag ggacaagtaa ctgctgcagg ggaattaggg 6300

tagtgtaagg cgcttgggaa aatcttcata caaaccagcg tcggaagccc taaggcagct 6360

acaggcaaac gcctagttga tagaacaagc acgtcctttt ncgatgagat acgaggagag 6420

aggtaagtca aaggagaatg aatcacttgg aagctaggga gtttaggat          6469


<210>     5800
<211>     4825
<212>     DNA
<213>     Aspergillus nidulans

<400>     5800

gaaaccaaaa aggtggttta tcggatatag gccattttaa aaaacggaaa gaacgggctg   60

aagttcggtt gggttcagta taaccggaaa cccaggtcaa ataacaggga aacgtagcgg  120

gttcaaacca gataaccatt tgttaggcgg cgaccatgtg tttaaatgta cccggcccga  180

ccggttcggg gcggagccaa ggtttaaatc gagcatgcaa aagacactct aaacggaatt  240

tgaaaaagat cgattgtatc taagggggcg caactggact ggtgctgagg agatggcaat  300

aggacgcggt aacggatcat catgtgttgt tcttaacttg ctgacagaa tgacatccag  360

atactatcct aacgcataat gggtccccgt aagacagatg tttgcattcc atgtccaaga  420

tgagagaaga ggacaggccg atctggatcc aggctgtagt ctggcgtgaa ggcgacgcct  480

ggataattgc ggtcattgtg gctttctgcc ttggcgccat tagctgattg aagagtggac  540

atgcatgtct ccaatgtcct agagccaaaa tactggagaa gtcttggtat atgcgcgcag  600

tgaggtatta gaacgctggc tatatattgc agccttagtg ttgattaatc ggtctcgtaa  660

gaggtcaggg ttcaaggaat tcgaagaccc tctatgagaa ttcagcaaac aggccaagga  720

tagttaagta tgcctctggc tcgctagctc gccgagatca gaatctggcc ctttaagtgg  780

ctttgagagg ctagctgagc aggcagggat ggctactcca aactcttaaa tctgagacaa  840

ttagcagcaa caacaaaaga aaatcctagc agccatactc tggagacgca caatatattg  900

aaatcaattc agttgcaaga tattcagtag cagatatcat aagatcacgt cagactgcat  960

tgcctcttca aactctagta ctgcccaaaa caaaaaggac cacaacatcc aaccctaacc 1020
```

11933

```
catgtccact caagttaatc caatcaccac gtgtatcagc cgaagtatgg agcagtccaa 1080

gaacctccgt catgctatat ttgcgtctca gattaccccg gagtatttca ctcttcgcga 1140

tcaagccgtc ccaccgtctc agaatcagca ctggttcttt ccatgaagcg cccttataaa 1200

cgtcccatct ctccaagcat cgctaaaccg ctcgtaaaaa ttctccttca catctgtaac 1260

aaatagccaa gccgcccggg tccgcaagtc ccgcactagc tgaggcagct catccaccgg 1320

caccccgcta atcatgtacc cggcgcgatc ccggtcgacg gggtgagctg ccagccagtt 1380

ctggacctcg tctgagcgga agcgagcgta tgactcttcg caaacaaagg tcacctcggc 1440

aggctgggcg agacggacgt cgggggggtgt gcctgggttg tgagcgatct acgtgaaccg 1500

agtcagtggg cttggcttca gccgtggcgg cggcaatgaa ggttccagaa aataataaaa 1560

atatgataca gaacagaatg aaaggtgggc cacgtacaag cttctcgtcc agaatccccg 1620

gacactcttt tacgaaactc gtaatcgatc tgagatactc ttctttctct cgcgaataat 1680

ggttcggcgt ctcgtccaca aagatcccgc gcacgccgag ccccgttgtc tcatagtgct 1740

ccgaccagga cgcataccgc gcaatctcgg ctagtgcttc ttgcaggggt ttccggcagt 1800

agtcgacccg gatgtagccg attgtgagga cattgcggta ggcattcagc cgtggcactt 1860

gttggctgta gctggcatcg ggggaggggt gttcagggag cccagggccg ctgttggggt 1920

tcacgatgac caggaaggtg agagtgggat tcgtttcaat tctggaggat atcagtggac 1980

gaaatgctgt tgggactttt tctttctttc tttctttttt ttttcttttt ttccttttc 2040

tttttctatt ttttttttct gggttgagga cggtttcggc tagggtggtg cgtacgctgc 2100

ataaagagga gcccaggact cggcggacag gggataaatg tagaggggta ccacgaccgc 2160

cgattttacc gccgattttt gtgcttgcat ctttgacaag aggttgaaag gccaatgagg 2220

aacgggtaaa ctctccgtgg cagatctgag tgtgatggat ggagggagca ttgtgccacg 2280

acgccgcaga ccatttataa gccgacgtgt atcacgacag ccgcagcagg atacaggact 2340

acatcactac tactgtcttt tctgtagcgc tgacaccagg aataaccgaa aatgagtcca 2400

tctcgaacgc atagtgagat caggtactac aggggaaacc tggccaataa atcaaccacg 2460

attcaccaat gattcaccta atgatccccc tctaacacag tctgaacctt agtgcacgcc 2520

acgcggcgcc agtaccattg ccagcgccag cgcaatcccc actggggtgg gttgatgatc 2580

catcaagtcg gcacggcgtc acaaaactcc tcgagtctcg tatcaaaatg ctcgtagtac 2640
```

11934

```
tcggttgacc gtgtagttgc atacaagtac gccgcctgac ggctgatctc gcgcacaaag 2700

ctgtccatat tgctgttacc catctgcggg acggagtgga agatatacgc ccaagagtcg 2760

cggtccgcgg agtcggcgac cgcgctcagc cgggactctt ggctggtctt gtagtggtcg 2820

taggactgct caaagacgac ggtgatcgag gtcgtgttga ggactagctg gctgtcgggg 2880

agggtgcccg gattgtgaat gatctgtcgc attgaggcag cgttagcgac tgggccaagc 2940

gaattgttgc agggaaaaaa tctgggaact gttccaggtt gagactggcg aactgggcca 3000

tcggcatgca tgggccaatg tccagtcagg caattgacgg cggcgagcaa aggaaagatc 3060

gcatcgctcc actccactga ggcgccgaga tggagactgg agacagatgg atcggcatcg 3120

tcgaccaggc cgagacctaa gagacccata acgccatgcc acgggtcaaa ttggcgatgc 3180

catcaccata ggtatgcccc attttccacg cttgggctct tcaaatagaa accagtcgaa 3240

actgtcgaag ctgtcgaaac tggctaaact gactaaactg gaccagagct ggaacttggc 3300

aatccgactc accgtcttgt cgcccccaat tcccgaggca tttataaccg ccgcattgat 3360

gcgttccaga tattcgaccg tctcagcggc atactggtgc ggcgattcgt cgaagaatat 3420

cccggtcacg gctagatctg cggattgcga cggccaccca gaataggttg agatgtcggc 3480

cagcacctca gagacgttgc gctgggcata gtttgttcgc acgtatccga tcttctggac 3540

gttggcatag gtattcagct gccggatcgc ggtttggtac gcctcgtccg gggtggacga 3600

ctagtcatgt cctgcttgat taataaagaa tgcgagatat cagattgaag atggcgagct 3660

cgatgtgtaa ggataggaga atgattatcc atcatgctgg cttttgtttt gcgtagtggt 3720

tgtgacttcc ccctgcgcac cttcctctaa ggccaatata gcatccctca ctgccgcaga 3780

caagttgtgg acctggcaga gatgctcgag gccgacgttc agcattactc caataacagg 3840

ttatgataat ggtccaacat tcaacatatt gtttcccaac gagagttgga ttccacaggc 3900

tgcaaaggtg cgaccgcatc aggcaagaat tcacactgcg aaccatccga acatgacaga 3960

tttgcctgat tatgctgaag cagataccca caagcctgag caggaaactc taagagccgc 4020

aggacaaacg gatcagatga tgcacaatcc aggtacatgc agatggcagc gcactcggac 4080

ttcgcgcgag tcttcaccca ccaaagatca accccgttca tgagcgcgag ccaccaggca 4140

agaatcatta aagccggggt atctttcgca accagacgct cgtagtaatc gggtaagaga 4200

cggcccatga atgtggttat gcgggagtac gttctcagag atggctcgag cgtcaacagc 4260
```

ggcgtaagca ttcgtagcgg ccagaggtac gggttattct ccgttgatgt gaattcgttt 4320

attccgcaga tattcgcgag gtctggatga agcccttctc ttccgggtcg ttcatcttcg 4380

aagagatcgt tcctggactc catgaatatt tcccaccaca tgctctttcg cacccagggc 4440

accgcgcgac ttagcaaatg gcgcaacccc gactggacaa atagccagtt caggcactcg 4500

actggattcg gcgagaacac gaacgattgg cgcgggttgt acgaattcaa cgcaaacgag 4560

ttcacggtca tgagcagaca ggccgagaat agcgcgtcca tgttatgggg gccaatagaa 4620

gactgcagct cagtgctgta ttggcttatt gcgcgctgcc agtggtgcga ttcgaggagg 4680

gcgtagttgc ccttatggtc tggaagaaca ttacggagat gtgcaattgc gacgccaata 4740

aggctgtgca taaggtatgg cgactgccag gagcatatta gcttggctca tttaaagagg 4800

tggtatttgc aattacctgc aatgc   4825

<210>   5801
<211>   4589
<212>   DNA
<213>   Aspergillus nidulans

<400>   5801

ttcttgatgc ggtcaaagtg gtttatgaat gcccattgtc tgatcctgaa ggacccagta   60

tatcgacaaa gctggccgcc ataaaatatg ctataatgaa aaccgacact gcttgggcgc   120

agactatcta tgagtctttt ccgtccgaca gcgcctcgga aagcatcggg attcgactcc   180

tatggaatgc cgcgcaaggg aaagatgcgt cacaaattgc aagaaatgtt gaatccctgg   240

cgtcgaatga accagagttg tggcagtcgc ttacgatctc ttgcgtgaac gacttgatgc   300

aatatgcgaa tgcgaccaat aatcctactt tagcctatga atgcatgaca ttagctcctg   360

catggggact tgtccctgat tcgcaaactc agttattaca tcttgagtca cgtatccagg   420

ccggtgattt ggctgaggtg ttgaattcta ttggggattt ggagggccta aataccacag   480

cgcccgaagc tcttcctttg atgaacaaac ttatcacaat gctctgcacc tcgggccagg   540

atgatacggt tttcaaccac atctcgtctc tccttgatcc cctgctagat aataacgtgc   600

gcttcgaggc ggacacgctc acagcattaa cgcacatgct tctctaccgc cacgacctgg   660

aagctgcctc cgagttactt cgccctcgcc tagggtccta cgatacagaa gaaagacaca   720

agatccgcac cgcattaaca aactttattc aggatcccag ccaagagagc gagcccgcat   780

```
gggaggcata catgctgctc cagctcgcat ttccggaaac aggagtaagc atgcgaagca   840

caatcatgac ctctttcttc aacggaacc ggagcgatct cgccttcctc gtgttcggtc   900

acatgcgcca ggctgaagat ttcgcgcagc ggcccaaacc agacacttat gcccgctgct   960

tccggggcct tgcacaaaca caagactcaa aacacctcga actggtgcac aatatgctca  1020

agcttgatac cgaagtcgac ctgaacacgc gtcttttgaa ctggctcatg ctcgcatatg  1080

cggaatgtga catgcctgaa aagagcatgc agattttccg tgagatcctc cagtccgaag  1140

aaggcccgtc gcaacgtaca atcttcttct tcttcagagc ttgcgagaag caccataacg  1200

gtacacatga ggctatgaaa atggtggaga aaatgaaacg ccttgagatt gccttcgacc  1260

gccggttata cacagcttat gtggaagcct tagctgcgca gtgtgagttc gaccttgcca  1320

cggaagctct agacgccatg aaggatgtga cggggcattc gccaactttt acatcgtaag  1380

tttagctgtc taccctgatt ctaacagtac ccgaaacctt ataattttaa ctaacttgtc  1440

cattcaagaa tcggacactt atacaacgcc attccttacc agcattggaa ggacgaagtc  1500

gagaaatggg ccaaggacag gcatcccaat ctttgggcgc acgtagagaa aattgagcgt  1560

gaggagcatg aagagggcct gaagtttaag ctacctagga agagagactt gtcaaacttg  1620

gacgggagca tgcgatgatt tggccactta ttcatgatat atactcatcc aaatataccc  1680

gctagagcag cgcatgcttt cacatatacc atcatcatag caatttcttt tgcagtctag  1740

atgctccacg ttaagcatat ataaatgcac cgggactgct gccgaagtta atccatagat  1800

aagacacctg atactttgct tacggccaga ataaacagat atgaacttgt gatgtgagat  1860

taaaactata actatcgtgg cttttttcta tccccaagac aggatagagt aaggtcataa  1920

atcgatactc gtgacgctgc aaatgtatat cactgtggaa ccgaagatac tgtttatgga  1980

acagaagtcc tgaagtctag acggatttat gctttggact gtgcaagtct tttggtcatg  2040

ctgtagttca tcttgttagc aacacaaaac tcgacaagca gggcggtagc cacttacaag  2100

ttgaagaaag agaattggct ggggctgctg ccgtattcgt acacgaagcg gctcgcaagg  2160

tggctgccaa agatggcccg caggtagttc tcaggaacct gcagatttgt cagtctgctt  2220

gtcattcggc atccaaaagc acaacatcta cttacccgct ggagaatcgt gtcgagacct  2280

atcttgtcca gaagcagctt gggcagagcg tcattgagga cagacctgcg gagctcaaca  2340

ttatcccaca actccgtctt ttgcagctct tcatcaagct gagtgatggc aacactgagc  2400
```

11937

```
ctatcactga ggacgctgcg agggattccg gtctgctcat gctcgcgcca tattgcttcg 2460

aactccaagg tggcgttctc tttgatgacc tcttgtactt gcttaacata ttccctatag 2520

aattcaggaa cgctgtcatc atctccaacg cacatgttct gcacaaaacc ttggtcgtca 2580

aaagatagtg aggccaagac ttccaatgag gaagaggtaa cgccaccctt attggcggag 2640

gcatctttga aaagaataca tccagctttc tcaagtcgga gcttgctgtc ttgcgtaatg 2700

aacaaattgg caccctcgac gatgtacgga atggtggatt tgccgttctc aataagcttg 2760

ccaacatttg aaagatcaat tgactcgggc gcccgccgca gggaacaaaa gtgtcgtatg 2820

ttagttcctt gcgcagatgg aacatgttgc ggaataccat tccgttatga accagctctc 2880

cgcttggaag gtggacattg ctctcatcca ccaacacacg ataaccatta ggtgaaagct 2940

ttgacacatc aaactcggaa attgtcgccc gcttcttcgc gagccgcaca agttcttcac 3000

ggttcaggcc ttgcggatcc acgatgacac cggatccgtc aacaattgca gtatacttct 3060

cgttggcgag gaggatctca ttcgagccaa ggtcaccgtc aggtccacca gtttgcagct 3120

ttcggattgt ggaggggtca attttcagtt tgcgatagat tccaaggaca tattggcgaa 3180

cagatagagt agtcattcca tatgtgtcat gaggaattcc accaagacga gggctcttgc 3240

cggtgaagaa agacttccac caaggggcac cgcggttgcg agcgtgctct gtggcccaat 3300

caactaactc tgccgtgttc tcgtcagggc ccataaagag gatctcgtcc ttgccgtata 3360

gatcgacgat aggatcctta atgccggggc tggctggtgg taacaaaaga tctaagatac 3420

tgtcgatata tttctcgaaa gcaacacgag ctttgtcttg gtgattcacg tcgagaagga 3480

tgactccctt tgctccacct tccggaatat ccttgttctt gcgctgctgt gtattggcga 3540

gattgtaatt ctcatcgaac agtgatcgag cattaatgct atacgcttcc ttgtttcggc 3600

tcttcacaat acggatgcca cctcgggcaa tgtctcggaa gcgcagatgg aacccccgga 3660

attcggagct gatgaccaag aacattccat acagtcgctg aggatactcg tgttccggaa 3720

ggaaatgtgg atcgagtcgg aagctgagag ccaccttggt cggtgtgaaa aagttagttt 3780

tgaggatgga ggcattgaac acgcggaagg cactcatgac catttcgtca tgttcattgg 3840

ccgctgtgct cgagaccaat tgcttcaact gccgactatc gagcacctgg tcaacctgga 3900

gacgtagata actcagcgtc ggaaggaaat catcctcggt cggaccttgg gtctgcacgt 3960

aatgagtgtt tgcaaagtca aggtaaagct tgtggatgag atcagggtac ttgttgacaa 4020
```

11938

tctctgctat ataatcagaa gtgaatgtct cggtacgcag cctcttcttg atcttcgcca 4080

acagctctgc gtgtgtgctg ttgttcgagt ccaatagatc ggttaaagaa gtgtattcag 4140

agccaagacg attcaagaat tgctggacaa acacccatgc gcaatgagcg taaatggtct 4200

cctgtaagct gagacgtccg ctcgcaaaat gatgctggaa cctgttctga gggatgcaat 4260

atagtagaga gatttccttg atgatttggt gaactgcggc ctcaattggg gggaacttgg 4320

cagcaacctc tgcgttcttc agaggacgca ggtaaagaga gatgacagta attccattgg 4380

agaagttctc caagtacttc cgagagcttg tcaggcggta gtagtgatat aggtcggaaa 4440

gtgcactgaa cagacccata gcggagcctg acggtaggcg ataacaagac gcttttcgcg 4500

agatccttca atctcaaaca tctcaatgac gggaccagcc cgagcaacag cgttgctgat 4560

gatctcttgg taaatggctt tggtgttag 4589

<210>   5802
<211>   7480
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations
<400>   5802

acagtgcctg ggcttcaatc gccgaatgaa actggaacgt ttgtacaaaa tgcaacttgg 60

tctcaaacag ctgtgtcgct tcctcaataa ggtgattgag tctttgcat: :c 120

tccatccgtc ttgttccact cttctaacta ctgcttttgc tctgcagaaa gaagttcaag 180

atctcggacc ggcgtcgctc cccccgacgc agccttagcg aacʌ   cgt tcagggcttc 240

ggcgatatcc actaacgtct tctgtcgaaa aagggaccct gagaagtgta ttctaacctg 300

aagtcttcca cctccttcgc acaccattac tgctagaggc aagccagcaa ttagaccctc 360

acacttgttt gcatctgcga agataaccag aatgtcgaat aaccccattc tgatgagact 420

taatccagcc tcccccggat gcatttcttg cttcctcaat tggtttaact tttccatact 480

ctgaatctcc tgcatcacgg tctgtccttg tctgctctca tggcagacaa ttgagggtgt 540

aatagtgtat gatgtcgcta tgttattggg gtcgtcaccc acatcgatcg acgcagcaac 600

agtatgtgag ccaccaccga acccttcaa cacataatgc actgcaaact ggatcacaga 660

cctcatacta atatctcgtg caagacacat ttcttccatc gcgacaagta cttctgaggg 720

11939

```
aaaaggaacc gagtactcat tgtagtcatc cggtccatca ctgaacccgg ttaccgcaag   780

ctggtatttc gtcgagtttg ttgcaatact gctcagatca caacgttcag ttattttgct   840

gatgccggct ttccaacctt caagccctcc tgcaaaacac acttggacac caacacccga   900

tttgctaggg tcaatgttgc cattgcctgc atcaacgtcg ccattgcccc cggcgctttt   960

cccattggac tgcttccaat taacctttgg caccgtaggg tctgcatagc cgccactgta  1020

gccagggccg tcttcgctca atagcccggg agggctcatt ttgattctct tatttcacgg  1080

agggcaaaag cctgagggga tatcgcttga gaagtcagtt gacggcctag aagtgaggac  1140

accgcgaaaa gtccgcccac agtgctaaac cgagctcccc tcctagacga ggggtactac  1200

agctccgcct ggccgattcc agtcgaagca ctgccaagag gccttacaa gattagggac  1260

tgacttcgct acccggcaat ccagtaccgc agcatcgtac catcaagccg tgccgtgggg  1320

acggccaagc gacaccgtca cggcctagca tcagaccatg ctaggtacta gtgccatagg  1380

gtacgcagga gatgatgttt cacgtctcct gcagattgtc ccaactggct ctgcaccgta  1440

atattggccc tatattgggg gaaagggcca atcgcaaaag ggtaacaagc ttcgttatga  1500

tcatttccca atattctctc gcttagggct gacgtagtcc attcctactc atcaaattgt  1560

ggtacgagcc aagccctcta ttcctggcgg ggctattgct gcagtgtctt acgctgattc  1620

aatttctgca gggtaatggt tttaggcgtc acccgacgaa ggccgccatg actatacttg  1680

tctacagccc ctcgtacttt tgcgacgagt gtggtcggct cgatgtccaa gccagtccta  1740

cccggtcgct tatttgcttg gagacttgcg cgcagacggg aaaataaata aaccctgatg  1800

gaaattcgca gaaacgtctg ttcttcgccg gcaattccta cccattaacc tacacaaacc  1860

agtccaagcc ttggggatcc ttccgttacc accgcttctt catcagtctc aactgcttgc  1920

cctcattcat aatgggttca gtcagcaaag ccaatgttcc aaagatcgat gtttctcccc  1980

tgtttggaga cgaccaagca gccaaaatga gagtagccca gcaaatcgac gccgcttcgc  2040

gtgatactgg gttttctac gccgtcaacc atgggatcaa tgtgcagcga ctctcgcaga  2100

agaccatgga gtttcatatg tctatcacac ctgagtaaaa gtgggacctt gcgattcgtg  2160

cctacaacaa agagcaccag gaccaagtcc gtgccggata ctacctgtcc atccccggga  2220

aaaaggcagt cgagtccttc tgctacctta acccgaactt cacgcccgat catccccgta  2280

tccaggccaa gactcccact cacgaggtaa acgtgtggcc agacgagacc aagcaccctg  2340
```

11940

gtttccaaga ctttgccgag cagtattact gggatgtttt cggtctctct tctgcactgc 2400

tcaagggcta cgccttggca ttaggcaaag aggagaattt cttcgctcgc cacttcaagc 2460

cagacgatac tcttgcctcg gttgtgctga tccgctaccc ttacctggat ccctacccg 2520

aggctgctat caagacggcg gccgacggca ccaaactgag ttttgagtgg catgaggatg 2580

tatccctaat cactgtgctt taccagtcca acgtgcagaa cctgcaggta gaaactgctg 2640

ccgggtatca agatatcgag gccgacgata ctggctactt gatcaactgc ggcagttaca 2700

tggcacatct cacaaacaac tactataaag cgcccatcca tcgggtgaaa tgggttaatg 2760

cagagcgcca gtccctgcca ttcttcgtca acctgggata cgacagcgtg attgatccat 2820

ttgatccccg agaacccaat ggcaagtctg atcgggagcc actctcctac ggcgactatt 2880

tgcaaaacgg gctggtgagt ttgatcaaca agaacggcca gacctagaag cgaggggtgt 2940

ggaactagca gatagcacct gtggacggga gttggattta gcattatcct tttagggaat 3000

tgagaactaa gaagaagcga gttcgagaaa attagagagg cgctacacca ttttagctag 3060

tttaattctt ctacattttg ttctttccac tccactattc gatcgtagca acggaattga 3120

agcagttcga tcatatacag tgttaagatc accagagaat acccaaattc ctccgcgcta 3180

tttgttttct aattttctgt tactaatgat aactgtgaga acgaaacagt aatccctccc 3240

aaaagccatc accatatggc gtggagaact gcgagagggt ctctcagaac gagtcattcg 3300

agctgcagaa ttgcacaggc cctttcgct ccacccgcag cgccacgaat ccggttggca 3360

tcggcgcgat gtcacctgca atggaacggc gataggatct tgatgctcac cagccaatca 3420

caggttctcc aagaagcact cgggatccac gggttccgtc tcagtagcgg ctgcgtacac 3480

gatcctaacc taaaagaacc acaggccaag cccacatgca tagcatgttg atttccctgg 3540

cccggcgccg gccgaacctt tggtctaggg ctttgtgcgc tctgtcgatt ccgtgtcaaa 3600

actggaccag gcagcaggaa catgtctgta ttctagatct catcggtact tgccgccaac 3660

tcacccaaat cgcgatctcg aatgcaccta tctagctagc caccctgttc aatattttct 3720

actggacgct ccgaagaaaa atgcttcacg taacatgaca aggtacccc tccgaagtaa 3780

gtccataccc gaatgtatgt ttgcccatat ttaacgccta tacttccaga tcggctatca 3840

ccatggctct gctgccaaag gcgagattgc gatagccatt gacttcgcaa ctgccctcat 3900

tcatggcaaa gcaaaaaga cacagccgga gcttgaacag ctcctcaggg agttggagca 3960

11941

```
ggtgatgaaa cagcgctggc cgagatacta tgaggaaatc tgcggtatgt ttacctacgt 4020

tctttacttg ctgaatcacc ccgttgacgg aattttcagg aatcgcaaag ggtgcggaac 4080

gcgaagtatc ggagattgtc atgctcaaca ctcgtacgga attcgcgtac gggctcgtag 4140

aagcccggga cgggtgcacc actgtttact gcaaaacccc caatggagcg ctacagggcc 4200

agaactggga cgtaggttat tagatccacg gtctgctatc tattttcctt gctaaccgcc 4260

attccggcag ttcttcaccg caaccaaaga aaacttgatc cagttaacaa tttgtcagcc 4320

gggtctaccc actatcaaaa tgattacaga agctggtatc attggcaaag tgggtttcaa 4380

cagtgctggt gtcgctgtca attacaatgc actacaccta catggcctcc gtcccactgg 4440

cctcccctcg catctcgcgc tgcgcatggc cctcgaaagt acatctccgt ctgaggcgta 4500

tgaaaaaatc gtctcgcaag ggggcatggc ggctagcgcg ttcatcatgg tgggcaacgc 4560

acacgaggcc tacgggctag agttctcgcc catcagcttg tgcaagcaag ttgctgacac 4620

caatgggcgg atagtgcata cgaaccactg cctcctcaac catgggccat cggcgcaaga 4680

gcttaatccc ctgccggact cgtggagccg ccacgggcgg atggaacatc tcctctctgg 4740

ttttgacggc acgaaggagg catttgcgaa gttgtgggag gacgaagaca actaccctct 4800

ctcgatctgc cgggcatata aggaagggaa aagtagaggc tccactcttt tcaacatcgt 4860

cttcgatcat gtgggccgga aggcaacagt gcggctgggc cggcccaata accctgatga 4920

gacctttgtc atgaccttta gcaatctgga taccaagtcc gcgatccaag ccaacatttg 4980

accaatatct ctttccaacc gatgccttct gcagtcttct ccagccatag cgtactacac 5040

cgtgaacact tctatgtatc ttgacaacta gatacaagtc aaaaggcgaa tcaaataaag 5100

tcgcatgttt gggagaatgc acgccagagt gaaatgctga atcctgttgg ctttcacaac 5160

caggtgccta aagtatagca atgcaacgaa ggcatgccta gtctagcttc tttccctaaa 5220

catgctttaa atctaatacg agaattattt aaagcattcc agaactacta ctaacttcct 5280

attccctgg agtttcctgt ttcggaaggg ttgacctctc aatccttcct aaccttgtga 5340

gtctagagta agctctgcaa tcttgtttaa cctacctagg actcacgaag actccctcag 5400

tatgaagttg ataaaggttc tttgtgctcc gagcccgcaa gggaaatcag tgctgagata 5460

tactggctgg gctctatatg ttgtagagtc aagtgttgac aatttgaatc ctcgctaatg 5520

tcacggctct gcaagccggg atcccgagtt ggtaaagcat gcaacagcaa gccccatttt 5580
```

```
atctacatat tagctacgat tatcctaatc attgctttta gaataatctc taaatttgga 5640

gccagcaggt cacagagctc actctaggca ccccgggcac agtgctcgaa atagcgtcgt 5700

gccgttatcc agcttcatac attggtgtaa aagaagaatc gagccatttc tggccaccca 5760

tctgataaag ttaggcctag ctccgtgaag acattccaca aaaatctctc catgaacata 5820

attcttctca gtgcttagtt tcttgaacat gagctacaga atggtttttt gaatatttca 5880

attggctttc caccataata tatgattata gttactaatt agactacttc tatagcaaag 5940

cttatagctg ccacaattgt tctttagtat acttatatga caggttagaa ttagtagctt 6000

gccgatcaga gcggggtcct gatgtattcg atgttcattt cctgctacct gtcgctggcg 6060

gaacctccag ggtcaataat ttaggagtgt ttggttacta taaaatcttc agatggctta 6120

atatctgtac ccgcgtggtt ttctggcgcc caggtcccat tgattctgat cctaggcgtc 6180

tcgcgggatg ctggataagc acggaagtgt tatgcaggca gctgtcgaaa cacctgaggc 6240

agctactggc aagatcccta gtcggttcgc gtctatactt gttaaatatg daccgcttgt 6300

gaccgctagt cacatatgaa cttccttatt ttggatatcg ggatcctacg ctccagctcg 6360

ccaagatata tgcaaaagtt cttgctattt ccacggttca aaggttataa atctcttccg 6420

aatgccgaat taggccaggt tgcgtattgt tcgttatata tataaaccgc cctattggat 6480

cggaagaatt agacctccat acgtcggtgc gtttgacagc ttccgacgca aaataatgac 6540

cacgagcgtt ctactgaaat gaaatccttg taaccattga acaatcgtac tgaggtcaga 6600

atctggtcac agcatttgaa gtatcccact ttgaatgcta acttggtcac caatatacca 6660

ccgcctagct cgtcactaac ctagaaggat accgcgcgtt gcgcgattat tagcatggtg 6720

ctgtaggtct catcttgcag acctagattt atcgaacagt ggcgactgtc tagtttccac 6780

tgtatatcac tgcgtgacgt tcaagacgca ggtgcaaagg tacctggtgc ttcgaacaat 6840

acgaaaatgc ataccactcc tcttccgagt aactttaact tcgttcgaat ggactcccta 6900

tgttcatgga gagcaagaaa catcntgnag ataatccctg acgcagcaag gctgacgcct 6960

aagtaccaag ctcttcgata gccccttaag agatctgttc tgttttggtt gtgatcaacc 7020

ccgactattg caccaaacat gagacccaaa gaggacgcat aattcatgaa ggttgcaact 7080

aagctggctg agacctgcaa tcacaatttt agttattttc tccgtctcaa tgctgaacca 7140

tcaaatagca tcaacacgct tagcttcatg gccttttgaa agagtttagt agctaatgga 7200
```

11943

cttactcctt gatgttcttg aggtatcgcg ttggaaacta gaacattgca tgcgggaaaa 7260

gacatttccc tggttacagt cagtaagtgt ggataccagt ccgaaatata tcatgaagta 7320

actcacattc cgcaaggcat tactaatatc gatgcaaaca gctgcccecta gtagctctgt 7380

ttgataggca tgatggcata aaaaatgtcg ggtgtgcaaa ctgcagagat catcatgacc 7440

acactggcag gcaaattttg aaagattaat cctgttgtaa   7480

<210>   5803
<211>   9588
<212>   DNA
<213>   Aspergillus nidulans

<400>   5803

aaagtagagc acttcgatca ttcaaattat cttcttggct tagcctgtca ttatccgctg   60

atttgtttat atgtctccct tggcggggct tagggagctg aagcagaaca aacgaggtcg 120

gctgtgtggt agcaaaggcc catgacctac ttcgatctat ggaggtaccc aggatagccc 180

tatcaatgca ccgaggatgt gattttgtga atgccaaaat tctagtaact tggttgtctg 240

ttctggcaag ctgcatgaac agaaacgaga attaggatct gcgcgaagcg gtccaactct 300

gtggcctggg cctggcagca ctgcacgata taatatcagc aagcctgtca atctaggtaa 360

ctcggctttg ctcctgatca gacgctccgg cacactgaag agatggagga cctgaacaga 420

cgtggagact gcacggatac accagctgat cacccagtcc aaatatcaaa gcgcggaaac 480

gtcgtcgcga agaccgcaat ccgtgactga atcacgatca ccgcattcta ctagatgcga 540

atcaaaggtc cttcattgca gccaatctaa ttgagtgtac ggccatcaaa gagcttgtgg 600

ataaactgaa acggaagaca attacaaagg agcgggtgct ccaggaaagt acgcgtaacc 660

atttaaagga cgaaaatgct gactccttcg gtgaaaagca atctgagacg gccgagtggc 720

gacggcggcg tggagaagac ccagtttgca gcgaaatact acagcgcttc tagactcggt 780

gtgagcttac tgaggagcgc cggctggtgg catgggcagg acctcatatc ccgaccacgc 840

gcagcggcaa ctcggcggga gaaaagtctt gtgcgatcag aattgccatg cttgagatgt 900

atagttatgg aagagatgct gcataatgtg atgaagacga ccagccctaa atacactgc   960

tttgtgctca tagtttcact ttgagttgtg aaatgattca ctacatgtct catcgggaat 1020

ggggacagac tagtaaactt cgcatctttg aagttggtgg tagagggact gatcaatata 1080
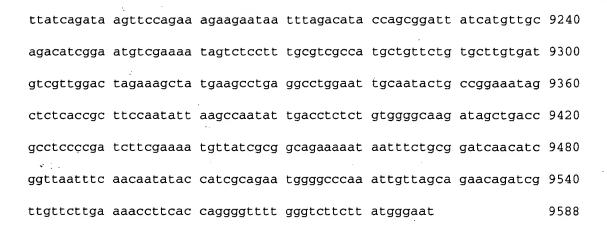
11944

```
agctggttta tactgatata aaaatggtat actttgacta ccggcgccaa tccagggcct 1140

agggcaggcc aacgctcgtg accttgcatc caattggtag agatacaaaa actgccatga 1200

gggacggtat accaagactt atttctcctg atacaggttc acgggcttac agtggctaag 1260

tgatctttga tgtgcgactc tgtagttcac tatttcgatc agccgtgtac ctgtgggatg 1320

ggctggcatc acccatatgc ttaggtcact aggccgcaac tcaggcttga ctaagcccta 1380

aggacagact ctatatcaac atccacaaga tatccccact ctatatcagg atccttgctg 1440

atgtaaagcg tcgccacggt tccctccgca ccgaatttgt aaactggtcc gttccggggt 1500

cggtccgcag cacttttggc cgcacactgg ggtaatatga atcaatcacg tcttcgagag 1560

tttcgtgttc aacgcccgtt gcaatggaac accacacgga ggagttatgg atgcccagta 1620

cgactataaa cacagctcca ttcacgttca tgtatggcac tccggctgcc cagccggagc 1680

tgcgtatgag aaggcgccat gatggctgcc ggtgatggtt catctccaat ctcaacccta 1740

ttccttggtc aatgaccagc caacggtcgt ccagccgcaa ggtctgtcgc tcggttggat 1800

ggagcccatt ggcttggacg gcggattccc ggagactgaa acagtagtgg ttggtataac 1860

taatggccgt gagattctgt tggagaccgg gcctggttga gttagcatag atctggggtt 1920

tgacccttgc ccttctttac cagtagctca actacgcagt catgtcctcc actttgtgcc 1980

gttcacatgg acgttgtatt ccagatcgtc ttgcaattag catcaatcac acccgtctct 2040

agaaggagct ccacaacggg ctcccgcccg tgttcagcag catggtacag tggcgttcta 2100

ctgtacgagt ccgtgagagc tgggtccaca tttaggtgtg caagcagcac cttaacaaca 2160

gctggtgtcc attctgcgcc gcgcacgaga gtggtcgcca gtacatcgac tgggaataat 2220

tatcgacagc tggactctgc aggagctgcc tcaccaccgt ctcattaccg tttcctgcag 2280

cccaagatag ggctgttcac gagtaaacgt ccccggcgtc tggtgcaacg gcggtgtttt 2340

tcaataaatc ccgacggcaa tgtcatgtcc atttttggct gcgagagcca attgcgttag 2400

accgcgctcg tctctgatat tgatctctat gtccgtggcc aggagcaggc gctctacaac 2460

tcctcgccct tccgtatctt gccgctcacg ataacaggct tcttccgtga cgatcttgga 2520

acttgatatc caccttacca cctcggagaa ggaagttcac gacctcaacg aaccctttct 2580

ctgcagccca acaaagtggt gtgcggccat gcgtatcctc cggatccatt atcaattcct 2640

ggaggctctc acacaggcgt tccatcgtat acgcgagccc gaattacgcc gtcatatgga 2700
```

```
cgttggtcac ctccatcgcc agccgctctc gatatcccgg aagccggaat tcacgggaag 2760

aagcatgacc tgcgcagcgc agacgagcat gtcgccacga agaaactgta gaactagttc 2820

ttggatctct cgctcaatgg ctccatctcc ctctccgtag catggagtcc ccaattctgc 2880

gccgcatatc ccagaagtgc gttgctctcg tcttgtagca gcgcttctaa cgctctctcc 2940

gacttgcagt gtatgtcatt gaacatatta aaggaaaggt atgtaaggca agctagtgca 3000

atatcttttt gggcattcgg gaagtactgc ctgcgccggt caaggaagtg atcttcggtg 3060

gatttgtgca ccattcggat gactgcactc gtgtggtcga ggaccactgt accgactggg 3120

atcatcatcc cactgatcag ctgcaccatg tcatttgttg ggattggagt ctcttaacct 3180

acacctcaca gttccctcac gcggcagtat atgctgtcta tctccaaccg acctggaaac 3240

gataagctgc ctggaagaga catctatcaa gtctaagata agggcttttg acagtttgat 3300

tcagctaaat agaaagaaga ttgaagagat tgcttgggcc aggctgcttc tgttcacatc 3360

acatggtttg ttgtcaacat gcctgtgtac aatctgctag gccacgactt acagccaatg 3420

cgcggggcgg tccttgtact cagacctctc aactagctga gttctaccta acttgatttt 3480

atcaaagcta catatagtgg aacctgcggt tattctcctg atctctgtcg tgacgatcgt 3540

ttactaggtt atccacctta tccttggcta gcatttaggg ttagccatac agcctaccta 3600

gtatagcctc agacggaatg gtgcacacct acctcctcgt tgctcaatga gtagcgactc 3660

gattgttcct ccttatatct aacctataat ccacaacgcg ataagctttc gactgctgct 3720

cgaccgtttt cgacccattg acgatggaag catgacgtat cccgtaagcg tgtggcccac 3780

ctctgtacca tatatgatgg cgcctttcca tactatatta tcgcaacaaa gtaggttgta 3840

agtaatgcta taaaactgcg gtaggatatg ttctatattt aacgtctttc tgagctcaat 3900

gaccttaggt ttctaaataa atagtataat acttataaat accataatta cagctgtaat 3960

atatattacc cagagaaata cttatctcaa agaggctact tgtatatact tatacatctc 4020

taaaccaact tcttgttgag atattagcgt atgaatagac actagtttat aggtgacccg 4080

ctcgcttgca aggcccattc gcttgcagga tacgttatca tctgaactga gtcagccttc 4140

tctcatcctc acaatgcaat attcataagc tggtaatgag cgcgaactta cctggcagca 4200

gctggatagg ccatcgtaac acggataccg taccacgtgc gggctccgtc gcactaagag 4260

ggacatccca tccaccccga cggagatatc tcgaccccgg ctctgttgtg tagccgttca 4320
```

```
tcgggccgtc gaacaattga taagatgcat cgctcgagtc attacacaaa ccaaagaaat 4380

tgataatatt tagtggatgt cgatggagaa cgtcagtgct cctgatgcta aacagacgtc 4440

ttggtcggac agtggggctc gacggttcag ggtctgccct cgtatttctc ggttctctcg 4500

tattttgtc tcgtatcaga aatgacaccc atatcaacca cgcccaggac cagttgaatg 4560

ataacgcgtc tggcaatgga ttagagcaga agcctcgctt gatctcgtcg cttttcctta 4620

ctataagaac atatcccata gaatgtttat agaacgttga gtggcatccg cggctgcgga 4680

gccaggggct gagcaggatg acatcacatg ccgcccccc cttccactct cagttccta 4740

tgacattccc ttctagttac tccgttcgca gctccataaa acgaccatgt cgtcgttctc 4800

attcatcgcc cattcctttc gatgacgaac ggtcctggct accggctaac tccactgttc 4860

cagcttcgcc catgatcgtc ctgtgtctat accattcccc tgaacgactc ttcgcactcc 4920

catctccccc cttccaaccc tgaactagtg cccggcaatg agcatccttg acgcaccatg 4980

gcattgagca gtctttcaat cggggtcgcc ctcacaccga ccgtcgtttc cacgctcttt 5040

tctcatgtac gtcgccctcc cgcgctttcc cggccgtgat cgtgtactga cagcacagta 5100

cgccaaccgt aaaaccctcc acaataaacc caatgtccac ctctcctacg atgaggggat 5160

ctcggtgatc cgcgagttta tcgatttcag ctccaagcgt ccgattgagt atatccagga 5220

attcaccgcg cagcgcgttc ccgcgccgca ctgggtgcgg atcgagcgag tctcggtcgc 5280

agaggagttt ctgtcagagt cggcggccct aatcatcaag caactgggtc cgcggggcgt 5340

tgcgcaggtc gggggtgaga aatggtggca gtggcgcggt ccgtcagggg acaagaataa 5400

tggagaattg cgaggcgagt ggattgagat gcatagcgac tataatgcgc ggaaacacgc 5460

tgcgaaaacc gactcgagca acaggcgcat catgctgtac attcatggcg gcgcgtacta 5520

tttcgggagt gtgcagacgc atcggtatca gctgcagcgg catgcgagga agctcaaggg 5580

gagggtcttg cacggtatgc acattcccta gactttgtta ctatgtttaa ttggctaact 5640

gctctagtga gtaactttga tttggtttta aacctttgct gacgaataga agccgactac 5700

cgcttgtcgc cgcaattccc gttcccctgc ccacttcagg attcattggc atcttacctc 5760

tatctcttac gagaccatgc ccccgaggac atcatctttg cgggagactc tgctggaggg 5820

ggaatgatcc tctcgtgagt cgataccggt tacttggagt gatcctcggc taatgattgg 5880

caggatgctc gtcatttgcc gtgaccaagg actgccgcta ccggctggcg caatactgat 5940
```

```
ttcaccatgg gttgacctca cgcattcatt ccctagcata gtaaaggaca accctggcga 6000

ctatatcccg ccccatggct tcttgcataa gccgtcgcta gcatggcccc cgccgaacga 6060

agacgagatc cgagagatta acgaagccct gaagaagaat ccagccacca cggataagaa 6120

gaacgagaag aacgagcctc cgacaggaga ggcgaatgtg ttcaaggtca gcgagtctga 6180

gccgaccctg ggccacggtc gccgaccccc gtctttcgtg atgaacggca aaacgataga 6240

ggtaaaggac cagattcaca tgtacacgac caacgagctg ctcttccatc ccctcgtttc 6300

tcctatcttc cagccttctc tcggaggact cccccctctt cagatcatta gcggtggcgg 6360

cgagatgcta cgggacgagc agttctacat tgctcacaaa gcggccaacc ctgtggccta 6420

cccgccgaac gacagtctcc tcgccgagct cgaccccaag cgcgaaatag tcaacaagta 6480

ccccggaaca tacgtccagc tccaagtctg ggatgatctg tgccacgtgg cccccattct 6540

cagcttcacc cgtcctgcca aatacatgtt ccgatcaatc gcgcagttcg gagcgtgggc 6600

gctggcgcgc gcgcaggata caacggtcga catcgtcaat gatgacgaag tctcccccat 6660

ctcatcaagt gagtcagcaa gtcccgagac atctgacaac gagggcaggg aaaagggacc 6720

tcacgatcga ccgggcattg ccgtaggtaa agctggtgac tcgctgccac cattcaaaga 6780

ccggatgatt cgccagaggg tggataaacg aggccacata tacccccttc ctcccccccg 6840

cgactgtcca gcgcttcaac tgcccccttc atccgtcggc acaatcaacc ccggcctcct 6900

catgaaatgg atgctagtca aggaagaatg ggatcaaaaa tttgcaaaag aaaaggcgcg 6960

gatacaccag ttacggcttg caggccttgc ttccggattt caggatttcg acggcgatac 7020

cccgccaccc agcgcgctgg ccgcgagacg cttctctcca ggtgcccttc caccaaaggg 7080

tctccgcacc agctaccata tgacgatgtg ggccaggttt gccaccaagc acgataagcg 7140

gacgattaag cgtgagcaag aaatggacag ccggtcacag cggtcgaatc gagccagcgt 7200

cgacgccgga cgagcaggcg cctcgattga gcaccaggaa accaaggaca aagccgcgtc 7260

aatcccgaca gagccagcgc aacagttgaa tgacaaggtt ccctattcta aaccgccgag 7320

caatgataac aagcccaccg actcgaaccc atctcttgcc caggcctcat cgaacaaatc 7380

cttcgtcccc ggcccgttca tcgtcctgcc gaactacgaa ggccctgaca agtccgaaaa 7440

cgcgagcaca cgcgccctct tccacgtccc cggcaccatc aaacccacag cgcaaaccgc 7500

aggcacgtcc aaaagttcgc aggatctgga ccaacgccca tcgtcgcagg gcggctcggc 7560
```

11948

```
gaccattcgc agcgggttta cggttcagtc tgacccggtg acggacgacg cagggagtac 7620

tattggcgac gaaaaatccc ttgctgttac cacgttgggt ggtgttgatg cggcaagtac 7680

ccgcgccgtg ctaaatgccg atggagtgtt gaggccgtct acggataaca actccgttta 7740

cgtctctgct gacagccttc cgctaactaa cggtgcggat catgagaagt agatgacata 7800

ttgtctgcca atatcttttc atctgtaata tatatgttgg agctagattg atacctatcg 7860

tgttttggta tgattgcttt ttgttgctga tgttggtcta tgtgatgctg gtttggatgt 7920

acactcgaat atgtcgagat ttatgccctc ttgtgtatct atacccatgc tatatatgcc 7980

ctatccttaa tatttaccct ggcttctctg ttcctgtata taacaatttc attctaaaac 8040

gggtatatgc aactagtata catctctaat tttaccgaat gtgatacgct ggcaagaaat 8100

ctaccactca accccaacct tcttcgcgac cttctccgca cacccataa acgcctccct 8160

cctcgcactc cgatccccct cctccgaaac aacagtcggc attccgcgat ccgcatcctc 8220

gcaaacccgt gcatcaagcg ggatatcacc cagaaactcg actccaagcc gcttacactc 8280

tgcaagaaca ccccagtccc cttcgccgcc ttgatcacca ggaccatgat gatgcaaccc 8340

cgccgagaag atcttcgtct tggtcccaca ctccgggcac gcaaagaacg ccatgttcct 8400

caccatgccg agcacgggga cattcatgcg ctggaacatg ccgaatcctc tcacagcatc 8460

gcggagcgat gtcctgtggt gtggtgacaa tcacggcgcc gtcgaggatg atctcctgac 8520

cgattgttaa ttgcacgtct cccgtgccgg gtgggaggtc cagaaataac acgtcaaggg 8580

gaccccagga aacggagtgc agaagctgct gcatggcttt tgtgaccatc aatccacgcc 8640

aggatatcgg agtcgtgtcc attgggactc gcgagtgatg ttgtggtgtt tctggggtaa 8700

gagatggggg gggagggagg agatagccca ttgacatgga tttgaggccg tagtttgtta 8760

gtggaataag gcggtcgtct gttggacagg aaagggttaa caaatgtgta tggcagtgaa 8820

gttatgtttt gttgagacat acgttcatca gtctcggct cccccgagag attcagtagt 8880

gttggaatgg aagggccaaa gatatctgtg tcaagaatcc cggtgcgtat gccgcggcgc 8940

gcgaaggcga gagctaggtt cactgttcgt ccgtttcgtt agattatatt ttcaaggaaa 9000

ccagtacgag gttgaaacgt gacaaaagct gtacccgcaa ttgttgattt ccctacacca 9060

cccttcgcag aggacacggc aatgaccttt ttcacatcgc gtatcttgcg cttctccggg 9120

agaccgcggc gacgggggaa tgagggcggg gtgccggagc gtgggaggcc ctgaaacgtg 9180
```

11949

ttatcagata agttccagaa agaagaataa tttagacata ccagcggatt atcatgttgc 9240

agacatcgga atgtcgaaaa tagtctcctt tgcgtcgcca tgctgttctg tgcttgtgat 9300

gtcgttggac tagaaagcta tgaagcctga ggcctggaat tgcaatactg ccggaaatag 9360

ctctcaccgc ttccaatatt aagccaatat tgacctctct gtggggcaag atagctgacc 9420

gcctccccga tcttcgaaaa tgttatcgcg gcagaaaaat aatttctgcg gatcaacatc 9480

ggttaatttc aacaatatac catcgcagaa tggggcccaa attgttagca gaacagatcg 9540

ttgttcttga aaaccttcac caggggtttt gggtcttctt atgggaat   9588

<210>   5804
<211>   4233
<212>   DNA
<213>   Aspergillus nidulans

<400>   5804

cttctgtgga tgtttgtcga taagcagact atactgatag ggcatagtct tcataatgac   60

ctggcagtgc tgggaatggt gcatcagcgg atcgtggatt cggcgatctt gacaagggat   120

gcggttgctg gtgcgaagga ggactgcgcc agggtcagga agcttgctaa aacgttcttt   180

gaattggaca tacagacagg aaagggacat gattgtctgg aggatacatt tgccgcgagg   240

gaggtcgtgc tttggtgcct gggtaatcca gagaagctgc gggagtgggc agcgggtgag   300

agggaggtta tggcgttgaa gaagggacga aagtagcttg ctttaatgct agaagtggtg   360

gctcatggtc tagaaggcgg cagtcttacc cttgtcagac agatcggatc tttaaggatc   420

ttatttcatg cggtaaaagc ttctttgtgg ttctgctagt gtgagttgcc atcaccagtg   480

gtcaggagag ggtcgaacat agtaaggatt ttgtaatttg gagcggagtt catgtcaaca   540

gcgacatcgc catttcactg gagattgagt atgtaaagat cttaactttt cttttgcttc   600

tctaactggg tctgagtgtc caggtgaaat agagctttat agccgttgtg ggctcgggac   660

tctcaaccga cgaaattgcg ctgagagatt ggcgaaccac ttggcctgga tggtcctgga   720

gtctacagcc caaacgttgt gtcagatcgg ctggaaggaa agtcaaggtg cacactcatc   780

tagatagtct tgcccatctt cctcactcga gccatctttg acctgtttag ggtgcacatc   840

gtatcgcaca ctttcgctct ttaggccatg tcaagtgagg cagttctcgc tctgaacatg   900

aagggctacg cctggccgtc ttgccggttg atttgccgag ccggttgacg ctggcttcag   960

```
ggttcttggt ctggctcagt gttattaaga agctactaga gcaatgttag ctcttttccc 1020

gctctgaacg agccacaaac tcccaactat ccgtcaacac caaccccctg gcaatctcac 1080

tttcacccgt tgtctcctcc cttctccctg ctgcgttgaa tccgctcaga ctgtcctcca 1140

ggcgctccga aacctggccg actctgaccg aatcgaggca tttctgccat ctcagattga 1200

agatgctttt gcatccacgt tcctgctgga catcattggc gtcattgcgt caattctcgc 1260

tcccgatgga acctggcttg agaatgctga ttcgtatgat gtactctcca ggaaggtgaa 1320

ccttgcagcg ccgttaggga aagttgaatt ggagtgtttg tggagggctg tgaggcctct 1380

tacacttgat aatgcgaatt gggactcttt tgttggagag agaaggtggt agcgagagcc 1440

ttgatatggc aattgccggg actgttgcgg ggagtagcag gctgaaaagt gtgacgcctg 1500

gcccagacta agagctcgac tgtgatatat tcactatcgc gcgacggttg gactcgagcc 1560

gcaggcattg tttgacctag cggatcagtt ggacgttcaa agggtaatga atatgcagta 1620

tgttgcagga ttcccgccat gattctcggt gctgggcttg tgagaggatg tagagccgtt 1680

gtagataggt atgatgcatt tggtgctgtc agccttcagt gatccttaga ggggtgcatt 1740

cgacattgtg aagagacgta caatgaaaat gctgtactca gtcattctgg gctgattggg 1800

ctcgataatg caactacaca cccaggccaa tgaggtgaaa tcggaagaga gtcagaagct 1860

attctgacat tgatatgacc agtctattct ttctaaccca gggacttgcc tacaggagag 1920

attctaatta atcaaaccac tgccgccatc ccaatatggc tcctccaact ccctacagta 1980

caggagtttt ctccacctcc tctgcccacc ttgtccgcgg cctcccgaat gtagatgtga 2040

tccttccata taaaatatca cccagctgcg caatgggcct cagattctcc agctcaatgt 2100

ggctgaggtc ttcatttgca acgcccttct tgactagaat cttgtcgcct tgatcagcac 2160

cactccactc ccattcattc cctcctggcg ggctacgaat tgtttgatat cgataacttc 2220

ttctatcgag aagacagact ctctcactcg aaccggacgt acagtcaagc tggagccttt 2280

gttagaccag agatctccca ttccgatata ccatacagcg catcgaggga gatcgcattc 2340

acagcctcaa tcatattctc agagacgttg ttaatcacac atctcctgtc tctttgagat 2400

tccgaaacgt atctttctcc cgcccaggtc ggcccgagaa gcccagaatt agcatgggcg 2460

gatcatggtc gactagctgg aagtagctga atggagccag attctcgaca acctcccaat 2520

atttcgctaa tgacgcggaa acagtgctga caaactcgat tggccgcggt gtgatagctg 2580
```

```
agatgagaaa acggtagttg ctgactgtct ccctggttga ggcgtaggga tcaatttcgg 2640

tatggaagtt gaaccggctt actccgtcca ggacgccctg tccatactcc cagtctggaa 2700

acggggattc tgtgacttca atggggcgag ttgcagtgct tgaagggtgc ctgggtggat 2760

tctatcattt taaagttgcc gacgtcttgg ataatcttat agcttttac tttatccact 2820

gctatagaag agctcattct gatactagca tctggcaatg accttagttt gccgggaata 2880

gggatctggt ggctgctagt ttctgttcga tcagtttggg agcttactgg gtaatcagcc 2940

acaggctcgg tcttttaaga ccgtcaacag tacagggcat gaggaggaga atatatgatg 3000

agagtcacgg ttcgagatcg gggttctgca tattcttctc taacgcagct ggttctgaca 3060

aatccatatc aagatctcgg ttaggggggc cgacatttgc ggccctaact tgatgtcatg 3120

gtgaaccgac tgtgcttaac tgccgaggtc gccccccgca tacaccgcag cactccattt 3180

gagacttgac cgatcgctta ctacgctatc atcttggtct ttccacctgt accggtctcg 3240

ccactgcctg cgccttcctc gccgcacatc ctcgcatcgc gccgaaaccc gtacacagta 3300

cgcgactact acaggtcttg tgcggcataa tgacccagta aatcagcaca aaagaccaat 3360

tacattccac ttcttgactg aagtattgat accgacaagg cctatgacac gagagttcca 3420

ttatttctgt ttcctttgtt tccgatggga gtacagctac gttaaattgg tagcgttgcc 3480

cacaacacta tgccgagcat caagcttata ctgtccgggt accagtggga ctagggctag 3540

tatgacggat gagccctgag ccatgatgag tccgcagtga gcgcaatcca acccctgata 3600

cttaataaac tgacggaccc tggccgagcg tctgtgaaga gaaggcagct agaagatcag 3660

gaaatcgagg ctatagctaa agagcaggat ttgacttgag ttagatttca attgccttgg 3720

ctatattccc tgttcaacta cgcgatgcca cagacctaca ctcgagaagc ctaatctttt 3780

gaaaataaac gaaatagtag ttccgctcaa gtacaggtta ctattctatg gtacagttgg 3840

tgaggcagtg agatcttcat ctgctcgtct tactttacaa agatatacaa gacaacgctg 3900

acgactcttt tatggttctt gctaatgttg taaagaaggt aatggcaaat ttagtccgat 3960

aattagcgga atgttggtga acatttcagg ggtctcattt gatggtcaca gcaacctact 4020

cgcttagagg tatgcgatgt ctttccttta gtttatgagt ttcaggttaa atctagtggc 4080

tctgccgccc tcctccagat cagtatgccc tagagttata gagctcggaa gaccgtccga 4140

aaacagataa gagattagtc atgcgggggtt cagattgact cattagctcc tatgagacac 4200
```

caagttggta atatctctat gttgtctcca ata   4233

<210>   5805
<211>   5415
<212>   DNA
<213>   Aspergillus nidulans

<400>   5805

tgaaattttt acatgagctc taccaagacc ttacgctggg aaagtagcca acattaaata   60

attctttta gcggctaatg ggagggcgac cagcataccc agctctttga tgtagtgaat   120

gccagcttca ccacgccctc gacaccttat tggccttcaa gaagcggtta ttaaagacat   180

tcactgattt cgaatttggc ttcttcctca ttaatcccac tcttctactt ccagaccttt   240

atattgggct tgagttttct cagtcattac taccatgcca agtctgcagg atctccccag   300

cgagttggtc gccacggtta tcgaccacat cgatcctgac aaggcttcgc tctcacgtct   360

cgcccagacg agacggcgct ttcacacaat cgtgatgccc cgtctcaacc gggacgtggt   420

gatccggaac aaccaggggt tggcctacag agcgatgctt ggtcggctcc ccggcatagc   480

atctgccgta aggtcactaa caattcacta tcatggcgat ggaccgtgct ttactgttct   540

tacacaggcc atgaagtctt taaccggact tgagaatctc acggtcaaag ggggtgggcc   600

ggccctagac agccaaccat ttcgagttca caaatggcat gtctttcgcc gccatttcct   660

ggcggctcta aaggaaggag ccttagccca tctcaggaca tgtatgtaat gacttgtctt   720

tggagatgcc agctgacttg gggagtttag tggaactaaa cctgaccgat aacgagccat   780

ggtgctgtga tattgatgcc ttcatgagcc acccgaccct caagaaactg tctattctcg   840

gggctcatat ttcttgctgt ggctttcctg tcccttttac tcgtagtact gctctagaag   900

agttgaccct tctgtgctgc gacttcagtg cggagacact ggcccgagcc ctcgctgtac   960

caaagggtct ccgaagcttc acttgtaaag gtgaggtccg tgagagtccc aacgacagca   1020

atgaacccag gagtgaccct aaatcttata ttgcggcact cagtcagcat aaggtgactc   1080

tggagtcgct cgacatcaac ttctggccct tcgaagatcg ttattccgac cccctggaca   1140

tgcgcgcatt ctccaaactc caaagactca cagtccgagt cgaagagctt tacagccgca   1200

tgctctatcg actcccactt ccagagtgcc ttctcccgcg cagccttcaa gagctcgttc   1260

tctggactac gctgtatgat tcatctgagc gcattcaaga agaggtcagg aaagagatcg   1320

11953

atcgctggct ggatcatctg ccgaacctcc aatccctcat tcttgaaact gggacaccga 1380

ttatattcga gtacggatac ccggctctgc atagacaggt tgacgttcgt ggcgccgatt 1440

catgaatgat aggtactggc cgctcgactg ctcgaactgc cattatcagc ttaccgtggc 1500

gagacaccct gataggccga gtgagaatat ttagatttct tttttcaac taattacgct 1560

catatgcgtt ggtctgtagg agagtgcaag gactattatc ggttatggta tcttggaagg 1620

agtcatgtat ttccctgttt atgcacagcc attggatgta atcagcgttc ctgttcatag 1680

agttaagtaa gggtattttg aactctttta cctaacacga aatatctgac ttcctgagtt 1740

ctcttgacgc tttatcgcag gccaccgttg aaaattgcct gactagtatg cgattttagg 1800

cggacgtttg ttgaagacca cttgggcttg gttcagcaac tgtgcaaatt gcaattatat 1860

agattgccag gaatgtctaa ttctcttcgc tcattcctgg ctgtcttgcc cgagacgccg 1920

ttgatttcct atccatatgg agtcatgaga atgctgggaa cgataccctt gcctagcttg 1980

taatatcctt tccatcagag gccaggtcat aggcgttaga agagtagatc tttgatagat 2040

attttggaag aacaggcgtg agttaacgat atccttgctg caatacatat gtctgtgttt 2100

tgatgtgcgt ctgccgaaca ttgaattgca tcgtatcatg aagcattgat cttaattatc 2160

tatctcagat cgttggtggc aaaacgtctt tagacgacgg aaacctctgc cctctttct 2220

ttggctgtct tctgttctgt tgccgcaggc aactcttcat tcccagcttc ggatgggata 2280

gcagtcccag agcttctctc acatccatcg caacccccat ccactccctg caacacaaaa 2340

ggtccatcca agtccgtccc cagcaccggg aatagtaaat tcaatacca aaataccagc 2400

aggctaatcg ttaaacccac gataaacgtc agattataca gccgcagcca cccggtccat 2460

ttgtcttcag tccacgagtt cacgtttgct gcgaggccgg ctgttgcaca tattcacaca 2520

cgttagctgc gccacctgta taagaggggg aatagagagg ttaaagggca ggagtacgta 2580

gaagcggcca catcccagcg gtaaacgcaa ccagcgcgcg ccagttcact ccgtgactga 2640

accagtagat gctggatggt gagccaatgt acagatctga cagtttagg cagtgtcgtc 2700

gaatgatatg gtagtccgct aacattaggc cactaggtta cattgtttag ctagatgagc 2760

tcaaattgtg gaagattcat ttaggagaag cacgcacgtt gccggagcca taaagacgcc 2820

gaagccactc agtacggaca agaatttagt cgcggttgag atgagctgcc agggtctata 2880

gatgtgttag tcttggagcg gctgaagaga atttgaagca gcgtactgag tagctattcc 2940

11954

```
aataatggcc atgatatagc tgcccctcac gatgtttagg tatcgcggcc acagaccggc 3000

gaggtccatc cccgtgctga cgctgtttag cactacgcta atctatattt attcatcagt 3060

aacgtccatc actgcatact cccaatgaga acggcatacc gagaactggc ttgcgacaca 3120

gccaagactg gcgaagaaga cccccgccct aacacgcgga ctgcttccat agtattcctg 3180

cacatctgcc agcaggtaaa tgggattcca ctggatctct ccacccatta tctggttact 3240

cgcgcttgta acaataattc cgatcgttgc cgttatggag attgtcatcg gacacgccac 3300

cagctgagat aaggtaggtg catatcgtct ctttgagtac cgcacccagt ctgactgacc 3360

gagtgtcccg ctgccccagg agccgaggat tgcggtgatt ccaaacataa aagcccaacc 3420

ggtattgggc gctgtcccgg gctcgtggaa gagctggcct gcgccgtgcg cttgagagac 3480

ggacctgttg cacgcaaaca tcattagcac acctctaagc cctaaaggtg agaggattgt 3540

ggaagagaag ttttctttac caaataagca acccaaagca ggttccacag aaaagcacaa 3600

agcaagagaa gaacgggatt tgcagtttct cgggttttat caggacagcg ggaataaaac 3660

ccgccatcca gatcaccagc ccaataaagt cgtttgtttg caggtgcgag ctggcagaga 3720

aatagttctt catatgggcg aagcctgtct ctttcagtaa gcagtggtct tcccccccaat 3780

ggaagtagta aggtaaatga aagatatgga caaaccaggt ataatagcac cgatcataac 3840

ccgcgtcgct tggcctcccc agaaggcttg catgccgaac cacatgcatc cgacaaagct 3900

gcgaagaatg acggggactg tagctctcgt cagccttctg ccgttgggcc cctttggatg 3960

agggcttctg aatggcgtac agtaggaccc tctcattccc caggagaatc ggctggacac 4020

tgtgaaaccg atatgatgca cctcacccat ccagccgcag aaaacagaaa gtaagcccgt 4080

gagaaaggag ccgaggatct tgaagaattg tcagattagc tggccgttgg atgggggaac 4140

ctacaatcac gcctattgcc tgctgcgggc tcaatccgaa tgccagcagc gtgctccctg 4200

tcgaccatgc tgagacgcag gcgccagaga cggtccagta tcctgcccat tcccgcctta 4260

gtcagtcact gaataaaggt gttcaaacaa gcgaacaagc gactttagac ggtatgtacg 4320

taccaaagta ggaccagact ccgtacgtcc tccgctccgg cggaatcgga ataaggtctc 4380

gattgcacca ggtcgtgttt tcgtagtcgg cattctcgtc gacagggctg acgatgaagg 4440

tcagcaggca tactcggggt caagaatggg gcaggaaatg tatggaggga ccattggagc 4500

cgctgcttga tgtcgggcca cgacaaagtc ttcatttctc tcattcactc cacagctctc 4560
```

tcttgaggaa ccaaatgatg tagaattata gttgaacgtg gtctctgttg gggtgcagct 4620

cgggacgcaa gcgggtcttt agagcgggtg tgcttatcgt tgcgcaagtc caaccactct 4680

ggattattgg actgatgatt ggcactcaag attggaaagc atctagtggc gcccgtctgt 4740

gatcgccgcg agctggggat tggggtcgat gttgagcgat caagttggcc gatctcgtat 4800

cagggcgtac ctggcctgga tggagagcgc tagcggaaga gggagaagtt caacgtctt 4860

tctacgtcag cagatgcact gttgggacaa gagtatatca gcaatccaaa gcaagtatca 4920

cacatttgat ctgagttccc cggcacattc atgacgacga ctcccatact ctggcacatg 4980

aatttatgtg gtttggctgg cggggccatg gattagtcac atataatgac ttatattcta 5040

tactgatggc tgattcttgg gcacatagcg gctcgtgact tctggccttc accgtagtcc 5100

taccggtata tggcatatgt agcagttgga acgaaggagt catgacatga ttgacattgt 5160

ggcttttgag agagaacaca agtacattga ccgtctcggc ctattaacga ttgggcagtt 5220

cgaatgacaa ttaccccatt gctcttggag tattcctggc atacccccat atcgcagtta 5280

gtttcggtgt ggtgtctaga attgtacgtt agttggccga tcagtctcct ggttggggtt 5340

aggttggaga gcgctagaca tcaaaacttc cttgcgggat cacggcactg tagacaaggg 5400

gataaggtat tgccc   5415

<210>   5806
<211>   8156
<212>   DNA
<213>   Aspergillus nidulans

<400>   5806

aaaggtgttt ccaacaactt aattaggccg tagatgtact ccatcaaaat tcgcatgggg   60

cagtctcgca actaaatata aatcttcaat cttagcatat cacagccatc agaaatatac 120

tccggttatt atgacccttt agctctcacc agtctttatt tacctaatct ctctctgtag 180

gacaaaggat cttcgactcc aacggggcct gagatagtcc cgctgcgagg aaacacaacc 240

cctacgctat tcccgcacgt tcgcaccgtt ttccaccttc cagagcctca acatgatgta 300

gagtctctta tcaaatgcca atatgttatg cgcgagtctt caatgcccgg tagcattgca 360

aagcttgcgc atcagccgac atcttttcct gaataggttc agggacggta cgtgtcattc 420

gatccacgcc gcatacgccc agtaagattt catgacgtgc tatatacttt acatccatga 480

```
gacgatatga tttatgatgt ctgttggttc accttagatg ttcgggcata cagtacgcac  540

acagatcgat ttgagtatgg cctatattta aacttagcac aggcttgagg agctaggata  600

tactggctgc ttcgaaggac tccagtcttt tgtgatatat tcttgatgaa gttattggat  660

ttacaaggct gtctgtttca tgtatgtact cacaagagcg aagcgacccc gtgagtagaa  720

taataaaagc accaaatacg aacctattga tttcgttaac aaatcacatt aaggctttat  780

tatcttgaaa tgctggcttc ttcgtatgac cctcgtcgga ggctcgtaat agtcaaacaa  840

cgactggtcg ggcggggaca ccatccttgt agtcacagcc gtacaacagt gcgtctgatt  900

atacgacgac ggtaggcaaa atgatgaaat gcttgccaca caatattata gccaccagga  960

cacggttacc atgaaggtct aagagtttga caagccccgt aggcacagga cttgtcctct 1020

gttactacag gaaatatggc gtaattccag tgctgatctc taataatata gctataaatg 1080

ccatgaaacc agcgcaagac cgcctcgaac acgcctgggt gtttgaaagt agagaccggc 1140

aaaatctgct cccctaaaga tggagtaaag ccacatttct acatgtcata gcagatcgca 1200

gcgaagacag agggagcctg ctattggcct aaaagagcta gttcatccat cggaagccat 1260

attgaaactt gtatagtctt tctgcctgaa gcagaggaag atattctcag atgaagtaga 1320

acaaggtaat acgtaggagg atcgtggtat ggcatatact agtcggtgaa cgtaaggtca 1380

catgttctga cgataatgag attgctggtg ataaggaagc tcacaagcag aaccgtgaca 1440

gggtctgatt tgcagctatg tgatgaagga tgaactgctg aaggaaggct cgcgccctgt 1500

tggtcgaaat tagtatacct agctccatca tccgtcgcag aaacccactt aattgcgctt 1560

gccgacgtgt gggaaactgg tggtttcact taagatgctt ttctccacgc tgtggatgtg 1620

ttcttggcca gacaattgtc agcagcattc gacgccacct tcgggtttgc gctcggaagc 1680

tggcctttga aatagcccct aagggcgcag acggagcagt gatcgtccaa tagttaattc 1740

tcccccgacg cgcacggccg accggatgat tcaagtcttg tcagatgtca agccactctc 1800

gagaaactcc atactgatcg gcaactccac agtttaacaa atttacgcac agccacaaga 1860

gtattccaat atggcctaaa gattgtgaat attatatcta cccgagacct tgtcaactgt 1920

tgtattgctt ctagatgcat ataaagatgt agagctgccc tgaggttaaa atgatatttc 1980

attagattcc agtcgcatct ccattacaag acgaccaacc ccgactccct tctttgaaca 2040

tggtctcgtc tccagcagac attattgccc tcatcacgct tcttgtcggg attccttcgt 2100
```

catgcattgg catctggacc ttgctctcgt gcatgaaggc ccgcaatcaa agagcatatc 2160

gggagcttca cgcaggttac tcatcctcta aactctcctt tatttgtctt ttttccacac 2220

ctaacttttc tctgcgtgca agtaagagag tcttcggacc caacgatgga gctcgagata 2280

gtcccgctgc ggcgtgatac aacccaaacg ccatctccgc acgctcgtat acccacattt 2340

tttcgtgttg cagagcctca acacgacctc gagtctctta ctgaatatca atatgtaatg 2400

cgtaagtctt caatacctgg cagcatctcc aagcttgcgc ataaaccaac aattttccgt 2460

gactaggttc aggaacaatc cgtgtcattc ggcctacgca gcacacgtct cctgcggttc 2520

tttgacatgc tatgtaatct acgatagacc gtgagaccgg atgatttatg atgcctcttg 2580

atttacatcg ggcgttcggg atatgggtgg aaactgggat ttttattcga ttttaaacat 2640

ggcgtttggg tgaaacttgg cacggcgcac ggatttcgaa ttatggggct cgcatataca 2700

gggtctcgga tggttagaag aacgtcagca gcataagaat tgatagtcat cggatataca 2760

gagttgtcta tatcgtgtat gggactatac aggtaaaacg atcagcctct cttgtcgcac 2820

ccgtgattag aatactagat atgacaaatg aatttctagt aagttgaata gcgttcctcg 2880

aattaaatat ttattctctt gaaatgctaa tgtattcgtg atactctcgg tcggaggctc 2940

ttgaggtgga acaacggccg aacgggcggg gccattcttt aagcctgttc tggttagacc 3000

ggcctcacta cgttttgcag cattcgaggg tacactcgag tactgtaggg ggttggggtc 3060

cagacaatat caaagagagc aaatcctagt tcaattcaat gaagagtctc atcactacag 3120

aatgattgac tgagttatca tagctatgtt cctaagataa agatacagaa tcggtgttcc 3180

ttttgaaacc attaagatat gcctcggata ataaatattg cgtctccgat cgtaattgcc 3240

tgtcagtact taagtatata tgcgagattt catacaaaac taagtgccta cacccgtggg 3300

ctctccgcta tcattatacg aaatatcagg gcattttggt tagtatgcag atttgcatat 3360

ctgcaagtac ctaggccagc ttttaccggc aaccaaagcc cacgccttcg ccatgaagat 3420

aatttcactg cgctcacttt gtggcaatta caacgactgt aggcatttgc atgcgatcac 3480

caccataaat cttacccggc gtgtagctta gcacagctgg acaaagagaa attcctgttt 3540

ttacgcccta tggctatgta tatagaaata tgcaaagctg cctataatat cataagcggc 3600

tgatgctcaa caatgcccct gacgcgcagt acaagtcaaa ccaaagaggt cttaagcaga 3660

gaatggcgtc gtgagttcca ttaggtctct tttagcacct caaatagagc ctcaaatcaa 3720

```
tactataggg actatagcgc taaatctagg gacatgttct aaattaccgc ttgagtatat 3780

agattaactt tctactaata gggatatctt tccctaaagt tatactggtt ctccagttac 3840

aggatgatta tcctagtctg agatatgtgt gccgtacgta caagaaggga ctctggggag 3900

aagacagagg aggagagaaa ggaatagaaa acataaagct gtaaggcact cgggacaacg 3960

ctcggcgggc agccgtagga gcgcgggggc cagcaacggg cgaaatgcgt ggtctttttcg 4020

gtggagaggg taatctacga tgggggcacg aagaggaagg aaggccagga tagaacagaa 4080

cgaattgctt gggagctaag tcgctaacaa cctcgtaagt ctatatccgc ggtacccgcg 4140

atcggccacg gccggctagg tatcggcatg gtgttgccct catccggttg ttcatgccgg 4200

gtgagccagg tatatctggc tcgaaagttg actcatgctg acgggtcagg tgtccgtcgt 4260

cacaaaaggg gtatatgtga agcgaggcaa aagtcggggt ttggaaaagg atagttgata 4320

gccaagtaat aaacgcgcaa gtgccttgta caagaagcta ttcttaggat gttcttcgct 4380

tttgctgatc ttgctaggta tgcttgtagt cacagccagt acagcagcgc gtctgattat 4440

acgacgacgg taggcgaatg atgattcttc ctacaagacg gccacacccg cacaccctgc 4500

acagccacca aaacatgatt accaacaagg cccaaaagtt caacaagccc gtctggacgg 4560

gactttgctt gattcgattc ctccgttact acaggaagtt ttcggtccaa tcccaatgct 4620

gatcttcaat aatgaagtta caaatgccag gagttcagta caagaaccgt ctcaaatatg 4680

tctgggtgtt ttgggagtag aggccctgtc tagcttttta ctttaaaaaa taaaaagaaa 4740

tttgccaaaa aaaagaaaa aaaaaagta aaaattagt attcttattt cttaaaaaat 4800

ctggagcctg ctcttatgcc tcaaggctcg taatcggaga gcatatcgga aactttaccc 4860

aggttcatcc tcctttaagt tttctttcta ttctattttt tatttaccta acatttttct 4920

gtcgcaagta agaaaatctt caaccccaac gtaggagttc gaaatcgtcc ccagcgggac 4980

gatccaaccc gatcgccatc cccacacccc cgtataccca ccgctcaacc tatagagcct 5040

caacatgaca tagagtcgct taccgatatc aacatgtcat gcgtgaggct tcaatatccg 5100

gtataattgc attgcgcaca gctgacgact tttcttaaaa ggtttgggag caatccgtgt 5160

tattcgaccc acgccgtgca cgtctgctag ggtttcatga cgtgctagat gctccacaat 5220

agcctgtgag agcagctgat tgattcttac aattggttca ccttgagttt cggcatgcgg 5280

gtatatactt gcggttttcc ttgattttgc gcatggcgtt cggttgaaac ttagcatggt 5340
```

```
cttgggggata cagggtctca gctgattaga agaaagtcag cgttacccgg gaattgactt 5400

ggcgtctttg gatatagaga attgtttgta tagcatatgc accaagaaga tttgaagtaa 5460

tcggcctttg gctgtacgca ccagtgttcg tgatcctctc ggtcggagtc tccaacagcg 5520

ggcagggact cagccctaaa cccacctggg tttgtacaag gctagtcaat agctaattaa 5580

ttgacttgca ggtgccttgt acgagtggcc gtatcaactc ttaaggggtt tttctttaag 5640

gtcggtattg ctacatattc ttgtatccac agccagtgca gcacgtctga tctcacacaa 5700

cgacggtagg gcgatacaat tgacaaagtt agtaaaaacg agctgaaacg ctcaggaacg 5760

ctttaaattc ctctgcaaga tgaaaacctt tttatggcaa aagctagcat atcatctccg 5820

caaatgtcgg cataataacc gcaatacgtg ggagtcgccc gaaggccagg gagtccagac 5880

atcactcaga caaatgcgcg attcaaatgc atattgccct tcggttctct cgaacaagct 5940

atgcgcgcaa tatttaacat atattgactg cagaatacgc actttaggtc tcacctgcca 6000

atcgccgtcc tgctatggcc gtgagtttgc tcccggcgta caccgatgtg tcaacgagat 6060

tggatcgtaa agtgtaggta gacaagtaat atttgacaag tctgactttg gcgttgtagt 6120

gctgagtttc ccactaacca aagaacgtct gtagcttttc ctccctcatc acgtccaacc 6180

cactgaccga aaacaagcct caatctctct tgagctcatg ctatctgcgc gcattccact 6240

ccccgcacta tccgttccgc gtataccact gaatcaaaac cgacagattc gtattggtta 6300

gtgatcttgt tcatgacgac ccgtctccag taacctatga tgacgttagc gttagactgt 6360

gacatgatcc cctgactcgg ccttaaatac ttatgaacta gaataggacg ctgtgattgt 6420

atcgctgctt gtgtagtccc ttaccaaccg agtcaatagc ccttttccct actcatgtcg 6480

ttatccttga tagtgctcat caatcgtaga ggacaaataa aggtatggtt catgaaccct 6540

gaggtcaata ccaaatctct cttcgttact gtcgaggcgc aaatttcccc ggaccctgct 6600

tccacgacat gttcccacaa taagcgggga tattgccggc aactggcccg ttctcggtac 6660

tagacgaatt tctgtgaaca tgcgcagcgc ggcctggggg gatgtggctt gtaggctgga 6720

atcgctccgg gaatgagtcc aagaattgga ccgaagatgg tccgactcgc tgccagagct 6780

caagtaccga tggtgattat ataaggaagc atgcgaatct gcaacaaata tcatcttcat 6840

aaagaattgg acattctact tgactcctca aaaaaaaaat ttttttttac attacacaaa 6900

atggccccga gatcgaccgg gacccgattg atccgcttcg ttgctgaaga cgatggacaa 6960
```

```
acacatcttg gtgaagtaga tgcagcccaa tacccagaca ttggcctctc ggtggtgaat   7020

ggagagcgag tcgctgtgcg acaggtcaca gggtctatct tcgatggaat cgtgacagaa   7080

aagaccttgc atgttgcgcg agttagtaac cccgtctctt aggaccctcc acttttccct   7140

tgtcgatatc tgatgacatt ttatagcttc ctggccccga tcgatatgga agacgttcct   7200

tttatccgat gcatgggtct taactaccga gaccacgcaa aagaagccca tattcccatt   7260

tccgacgtgc cagtactatt cattaaaccc cgaactgcgc tgaacggtcc ccacccagcc   7320

atgattaacg tgcccatgat agcccaggat ggctcgagcg actatgaggc cgagctgtcc   7380

gtgatcctgt ccaggacagg ccgcgacatt cccgagtgcg atgccatgga ttacgtgctg   7440

ggctacacgt gcggcaacga tgtgagcgct cgtacgcagc agtttaagaa tagccaatgg   7500

agcttctcca aggtaagcg gaaaccacat tggcactccc agcttgtctt gtccctcttg   7560

aggctgattt gcgattgtta gggctcgatg gctcgtgtcc gctggggccc gttttggtgg   7620

ctccctctga actcgacccg caccagctcg atatcaaggc cattcacaat ggtgcggtgg   7680

tgcaggactc caacacaagg tacggtcctt attgtttatt ttttatttta ttttatttta   7740

ttttttttgcg agtcctctaa cgagaagagc ccgtgctgat tagaatagag agatgatatt   7800

cgacatccct aagataatcg cgttcctgtc acagggcact accctagagc gcgggacggt   7860

gatcatgacg gggacagggc caggaattgg ggcaatgcgt gatcccaagg tcgtgctgag   7920

agatggcgac gatatgcggg ttcaaatcca gggaatcggc acgctctgta accgggttta   7980

ctatgaatag tctgcatagc ttggtagagt acggaatata ctctggacca tgaaatgatc   8040

actacagcaa taattagccc atcggggcat ttgtaagaga tttcggggtg atttcggacg   8100

aattcccacg tactacgctc attctccacc actcctcttc ctccagtgga ctacta        8156


<210>      5807
<211>      2212
<212>      DNA
<213>      Aspergillus nidulans

<400>      5807

acgtcaactt gtgtaccggc gacctttcca caaatggtca ttgatggcct tcgcaaatgt     60

cgaacaccgg gagtacgcgg cgtatatttt cggatgttga tggtcgagtc ctggcgaaca    120

ggaggaggag cgaatgaaag gctgggatca atgctcgagc tcgaagactc aacagaaata    180
```

11961

```
gactctgtgt gctgctcaat acccgtggag tatgaacggg ggagaagaga agacacgcat    240

cgaaacggga gtcgaatgcc cctaaaggca acccgatgct gaagcatatt gaacgttagg    300

ctcctgtggg acggattcct gggtacgagt caaatgtccc aggtgcgaaa ttgtctgaat    360

caagcgcgct gattattgct gaaccatact actcccagtc ccgcaaagtg ccgtcaagga    420

accgtgcctg acgagttgca attcccaata gcacttccac tccggacgag caaaaatgtc    480

tccggatgat ttgcgggtgc ggcggtgcgt taagtcacgt gaaatgtacc gcctgttctg    540

tggctgaagc agaggtgaca tgtgaccatg gctcgtttgc ccccaaaccc attatgaagt    600

ccagttaatt gcccgggtaa ccgctgtttg ttggtgcaat gtcccgttca ggagacgcgc    660

ctcaatcgcg agatcgcgtt gttccgacct catcgccagg acaacctccg ctcccgctgg    720

cgtttcgctt cctgaccgtg gtcccgtatc aaatggttaa atataccctt aggataccgt    780

atttcgcgac agcaggaggc tcttctaatt cacttctccc cttttccatt ttcctctcca    840

ccatctcgaa cttcttcttt cgcctatccc caagagtcct aaaaatttta ctcccactgt    900

acatagggac cactgaccga gcaagtacat actcctgtta tcacgacgta atcgctcgcg    960

accaagaagg ttcaggttgt gccgtggcct gtgggtgggg cagcgtcttt cccagcctag   1020

cacgctaaaa gagggccaaa caacctcttt gccctttcaa gtggcctacc cgtcttttcc   1080

tccagcatcc acctcatcaa catacctaag agctgcctct acctcacact tcattgacgc   1140

ctgctgtatt ttctcgcgtc actgttcata attactcttg cagactcctc tatacccat   1200

ttcacaagcc tttttgcttc tcttgagcgt gctgcgcgtc cctgaatata cgtgtcgaac   1260

ccgattgaca tcaacaaacc acatatacac caagatccga aaacttgtcc cacattcttc   1320

tcggttcatc tcattgctct tgcattatct cgaccgattt cttgaggtcg acatacttgc   1380

gtctggtacg tgcacccaat gctgttgttg cctgggtgtc tgggtccacc gtagggaatg   1440

ctgactgaag tccagcgacg tgcacagtta ctgaaccaag acattatctt aaatcttgct   1500

ataatctgtc gagggctttt cctgctcctc gcgctctctt cgctatgcct ccggtaaggt   1560

tcctctggat ttgacgcgtt acaatgagtc acaactgctt caccctggcg acgcgacttc   1620

ctgtggctaa cacattgatt tctgcttagg ctcgaaacct ccgcacgcga ggcaccatga   1680

atgaaaacga cgagaatggt ccctcaacgc gtcttactcg cgccaaagcc gccgccctga   1740

caacagacgc ccctgctgcc aatggagccc tcaagaaacc ccttcagaca aagaaagccg   1800
```

11962

```
ccactggcgc caacggcaca caaagaaaac gtgctgcgct tggtgatgtt agcaatgtcg 1860

gaaaggcgga caatggcgag accaaggacg cgaagaaggc cacatccaag accggcctta 1920

catcaaaagc taccatgcag tcggggggcg ttcaaaagct cagccgcagc aatctatccc 1980

gtaccgccgt cggagcaaag acaacaatg taaagaaacc tgccacagag gcaaagcgcc 2040

ctggaagtgg gtctggtatg ggaagcgcga tgaagcgcac atccagccaa aagtctctac 2100

aggaaaagac catccaacaa gaagagcctc cccgcaagaa ggtcgacatt gaaaaggtcg 2160

tggaaaagca ggctgaggct gtctcggtta aggggatga taaggcaggc ga         2212
```

```
<210>    5808
<211>    10255
<212>    DNA
<213>    Aspergillus nidulans

<400>    5808
```

```
tgcgctcagg gcttggaatc tgcgtgcgtc ctggaagggc ttcattgacg tgatctgatt    60

tccaccggtt cctgctgttg tgttcttgcc tgatgctggg ctaatcagtt gacttggaca   120

ttaattttaa tgaatgaatt ggtgttgacc cacccatgca cgtgtaaaca caaccgtcag   180

taacgcatat tagcacatac tctcggaata ccatggatcc ttggatgcac cttcgtgggg   240

agtagatata gtgtggagcc actgcactag cgaaagaaag aacatgacaa accgtctata   300

tatcgaactc gaggtaatgc tgagtcaggc tgtcacgcct ccacccgtca gttcttctga   360

attcactctc cggttgtcca atacaggcga ggtagacctt ccatgactta ggctctgatg   420

cctgaaatca atatccaaca ttcaacagag cactatgaag ccagccgtga agaaatgcag   480

aatgcgtttt acaccatttc gcatcaccat ttcctttgga tcatgcacaa tacatcaagc   540

aaagccaagc acatcagaga ctctctagca agtgtctgga tccgaccacc actaccaagc   600

gtcgccctcc agttacaggg aatagatctt tctgactgct catggttcag cccagctctc   660

ttcatccaag atgccgtcag ctacatcctt ccccttatac acatcgagtg ctcgatcctc   720

ggccagcatt tgacagaggc cacccgcatg acttggcacg ttggcggata cagtctgaca   780

gtgggcacgt ttatcctcgt tgcaggtaac ggtgactggt atagatccaa acgcattcta   840

ttactcggct gggtctggct tggggtctgc tcgatcgttg ttggctgcag tgctgtattt   900

agcgataacc cctcctgagc ctaccataag gcataactac caaggctttt ttgactctaa   960
```

11963

```
atgcgtacaa tacttttctt gggtagccct agacagatcc ctgagtctct tatttaatag    1020

actaattacc tggcacgtcc aactgttgta ttttgccctg gctttcgact ttgacgagct    1080

ggatagtttg gataggtgcg accaagtagc cggccgtgct ggtcactcaa aacgagaaat    1140

atccatcact tcccacaact tcaaaattcg tcaaaggtta caatgggtag attttatagg    1200

acgtcacaca gtaagtgaaa caaaccaaat aacagtagcg agaagagctc tgaatggttc    1260

ccgctttaca ggtaatactt agaatcctga ctgggtgcat gtgagtgcgc gtgagtgcgc    1320

gtgggaaggg tatagtagat gcttgattga gcaaaattga tagtcacaat gtaaaattat    1380

atacgttgcg tacaaaccaa cctaggaatc tgaccctcgt gatccgggtg gtgtcagcgg    1440

tacctccaac tcaacaatct tctccatcca cctgacacga aagtcattta tatccaagat    1500

ccagcactct gacggccttg ttatatagac caagctgtca tgtatcctcg aaaccacgtg    1560

atccggtgca agacagatag cagtgtccca gagcgtcact gtccggttag tgctgaacat    1620

ataatcataa tccgcgcttt ctggccatct ctggttcagg tttccacgaa gctcttctgg    1680

aatgcccgca tctgtctcca tgtctgccag tatctccccc cttgtgtaca gccatgtgta    1740

tacaaccata tagcatccgt cccccacgct tcgaagatcg gtaaccttgg cgtaagtttt    1800

gggggtttca gggtcttcag actgtgcatc ccccaagaga cacacggtca caatgtgccc    1860

aaggcgaagc ccaggtctcc aggaaggcat actggacctg cactaggcta ttccacagtc    1920

ttgcaccatt tcttggaatt agggagaaac agctccaacc atatcctttt ttcctcatag    1980

aggactttcg cagccggcgg ttttttgatc attaaatcat ttgtgttgaa tgtgtcaaca    2040

ggtgccaagg cttcacgtgc tgtcaacagt tcattgacct ctttagttgg aaccttcaag    2100

aggagctctc tagcataggc cgctgctact gctgctgcat atccttgcca tgtctcgttc    2160

ctgtgagagt cggcataatc agaatacccc gaataactag gcatggaaag tgattcatta    2220

accctgaagc ctccatttct acacagtata cccctaggtc ctgcgcaagc cgatctcgat    2280

atttgccatt tctcaccaat caattcactg acgcaattag accgtagtga atgtctggtt    2340

cactgaagtt ttgtgtagga catgaaacaa gtttggattt gtcacagtta tcacaggtgt    2400

tcggtggtcc atccaggtat gcatagtctg cttggtataa ataatcctcc tcctgtacta    2460

gccgggcgaa ttttgcagct caacgcgccc taactcgaat attatcgaga cactcagaag    2520

cccgactatc ctctatataa tgacgtgctt taagccgacc aggagcagtt agcagaggcc    2580
```

11964

```
atggcagcta gtttagcatc cctgtgcgct tgaattcact gttgcctagt actttaagaa    2640

gatcatattg taccacccct ccagatgtat tttttggctg gctcacgaca atatcaccct    2700

gttggatatc tgtatgagca gttggtactc ctccaccaaa tacaaaccat taggctgaac    2760

cggattttgg aaaagggaga taataaatgt gtcgccactg ttgcagcggc tgttatacca    2820

tatataccct gtggtaaaat ggcaatggtg atattttgat tcccaatact gcctagtacg    2880

tattcgagtc tgctggaggg actagtaaat cctcgtgtat cgcgtctaac atgagctttg    2940

cagccgtcat ctcgatgggc aaggcacaca tccaccaact gtgtagtcgg catgagtacg    3000

acggggtctg ctagtcatac tagaccagta actgtcggat tttgttgaga tataaggttg    3060

tcttgattag aatgcttgcc tagacaaagc cccactccaa gtctttgttg acaagcttct    3120

gcacggcaca cttgtgatgg ataataaaag tagactttgg atccagacta ggttcagctc    3180

agtaaaagtc tcatattggt atgctatgcc tgcgatttca tctaaattga tatagaaaat    3240

ttgctctggg cacatgttaa tagtaagcat ttagctccaa actaagatta tagttatgtt    3300

tttaaatagt tgaagcaatt ttcaattatc aggtgccgtg gtctagtggt atgacgtcac    3360

gttgtggccg tgccagcctc ggttcgattc cgggcggcgc caacattttt ttcctcattt    3420

ctacttttag aaagtaggct ttttgacttg gcatactctc tcaaatgtta cagcctttgg    3480

ttttatatag ctcgagagct cacctcaatt gccccccttca ctcacatgcg tttcggaact    3540

ggaaggcttg tccttacaat gccaccgcaa accgcgatgg tatgcatatt ctgagacata    3600

attactatta tccatcccct gttaattgtc cggctttcag acgacgactc tcttgaagct    3660

gatcaaggga atcaaatatt gcaccctgac aagctttggt ttaagggtta agcggtcacg    3720

cttgactgaa accgttacgc tgaaacaagc atgggcatga ctgagaccga ggctgactgt    3780

ctcacacatg taccctgttg cgtttgtagt ggcttaagta cctacacttg tggccagcaa    3840

ggatcccgta gttcctgagt ccgtagatta gagacaactt gcccttgcgg tgttcagtaa    3900

tatgttactg aaaacgaagc cagataaatc accagtttct agtggtccta cattgactat    3960

tatactgatg gggaatggtt tttaactgcc gaaatggcag agacattgtc ttggttgcat    4020

tgctctttct aaacggccgg gtggatgagt tgaagatcag caaccaactt aaataacagt    4080

agtcactccg agagatctcg agaccagcag ctcagtacag gacggctctt catccctaac    4140

ctgacgagcg tagataatag tctattcttc ctgtgactat gcctttgaca tattgagctt    4200
```

```
agaaagccgc gtgttctaac gtgttcgatg tagagtacta ccagacagtt acctgtctcg   4260

cagcatggaa acggctctga aagtgatacc ggatgtgccc atcaccctca actatgcgga   4320

cttacttagg ggcacggttc aagcgaggac ggatcccggc taagacgtga agaagaagac   4380

ggagaaacaa gggaacgaaa taaaaggcca tatagagaaa tgatttgatg tactggccca   4440

caacgcgttt tactagaaag tacagttgta ttataagaat tagacatgct gacaagaaat   4500

tggcatgttc aatcaatggt tgcaaattaa ccgagtaaaa ctaggttttc ctatgctagt   4560

gtcggtaaat atgagatatg aacgacgata ccctttcaga ctcttcaata tgtaatgcct   4620

agagggatga cacacttagg atgtttgtta tgagggagca aggacgtgag tataatgcat   4680

aaccttattt tgcacggaga aagaaagtaa aatgctagcc tgggtaatct ataatgtaaa   4740

catacaggtg gacgcatgga acattagtat ttgaccaata cttttagct ctagcccatg    4800

gagtagtcaa ctcagttaca ggcttcccgt cttggaacgc aacacgtcaa cagccgcgtg   4860

atcggtgaac caactgactt tctcacccccc accctggttg accagcgcag acggaaggct  4920

cctcccttcc tttgcatcga agatttgctt gagaatatcc ttctttcctc caccagtggc   4980

gacgaaggcg atactcacag catgcgtgac gacgggcaat gtgagtgtga tgcgctttgg   5040

tggcggcttc ggagagtcgc tgatagcaga cacccacgca tccttttccc gtagcaattc   5100

atgtccaggg aaaagactgc aagtgtggcc atctggtccg cagccgagaa gaatgaggtc   5160

gaaaacgggc agcttaacgc tgtccttggc cgcaaaggag cgcatcagct cttcctggta   5220

caaatccgcc aactcctgag ggtcgccatt gacatgcttc tcatcaatcg tgtgcacatt   5280

gggtgagccg agttctgaag gtatcttgct aagtagctcg tccttcagaa gacggtagtt   5340

gctgtcctcg tgatcgagag ggacagcgcg ctcgtctgcg aagaagattt cccacttgga   5400

aaattgagca gtatcctctg gggtaccatc tccgggagcg aggagagctt tcgcgagaac   5460

agtagggaga gagccaccag atactgcgac gcggaaagtg ttgtgacggc tcaggccgc    5520

gttttgattg cggaggacat agggccgtaa ttgcttggcc agggcatcag tatcttgaaa   5580

gctgaaaagg ttcggagctg ggcctggcat gatgggatgg cgatgaactg acgtatactt   5640

gttagattgt aaaggaagga tggaagagaa taagtagata agagaaaagt tgagggattg   5700

gtgaggtcac tgaggggtga tttcggtcag agctaaggtg gggtggcggg gcagaaagga   5760

ctgatccata ttgttccata tatgtccgtc gttgcccgga atgaggccgt cggctcgggg   5820
```

```
tcgggacctc ctccgatgta actatgatga tggggagcaa atgtgctagg tagtggtttc  5880

ttctagaaag cagagcaggg ggaatatggt tgcgccattg ccgctggtgc tgagaaataa  5940

gggtaaaaaa aaaatctccg gcagaaaaaa ttggcgccgc ccggaatcga accggggctg  6000

gcacggccac aacgtgacgt cataccacta gaccacggca cctttttgct gacataattg  6060

tcagcttatt tgtatattat ggaaattcta gctttttcga gctacattga cacattgctt  6120

tagctctgag catcagggggg aattccccgc aagaatcatt ctgctcccaa atatttgatc  6180

cattcagagg tttgagaggg tcgttccttt tttctagaaa tcggactctc aactggagct  6240

ttagatctga attcgattgc ctaaagtgtc gcgtgcctcc tctgcagcag taccaagtgc  6300

caagctccga ttgttgtcag ctgtgaccgc agctttgatc tgatctccgg aatcagctac  6360

tgagcgcctg gagtgacttc ctgctcctcc atttcctttc ccttttctaa cctgcagcta  6420

aagctgtgat ctcaacatgc caatccccac gcgctcggtt tctacccgag agactcggaa  6480

gcaggtaaga tcagttgaac ccagagccct ccaactcgcc cctcacatct aaaaagcctg  6540

ccgcaaatgt agggcgcacg gtgtcaaacc tgaagccctc tactacctca caattgaccg  6600

atgaggctcc atccaagacc gaaactacga gaatcgcttc ctccaaccta acgcgtcgtc  6660

aaagcctcgt ccgtccgagt cagctgcgga ttccatcatc tgcaaagccc accactcttc  6720

caacaagtac aaggagtgtt ggacggattc cgacatcccc tgttaagcgc aatgtgaccg  6780

ttagacagca aaatggagaa cctgttgtgc cgaaaaagac agacatgccc cctcccgcgc  6840

gaccggtgcg ttcatcctct ctgaggcagc cgacacgctc gagcaccgta acatcgacgg  6900

tgccgcgtgg acatgctaga catcagagtc agatcgtcac gccgtcttcc agaaatcttg  6960

ctatgccgtc gacagcaaca tctacagcgt ctaaaacacg aaatcagttc tctacgtatc  7020

agcagcaatt ttcccccaag aagacacagg aaccaacggc ttcgacaccc gacaacggcc  7080

ccgacgaggc ctcttccctg ataccttcgt cctggccaga ggtagcagcg ctacagaccg  7140

agcttcttca gcttagtctt ttataccagt ccatgcagca acgcaatgac cgatggcaac  7200

gagatgcgca ggcgcaccta aggaagaaat atacctccgt agccggtgac tacaaggcta  7260

ttctgaacga ggagaaagag ttgcagagaa gactcaatgg acaggccttg cattcctggc  7320

tcagaaactc gggcgagcac aacgggcagc agagatttgc agaacatgtt cagcttctat  7380

cccaagtcgc cgacgaggtg tatggtctta gcgacagtca tggacggcac gcaatagcca  7440
```

11967

```
ttttggagtt cgaggaatgg ctgcaaacag tcgagaaaat tcaagaagct cgggcaaata  7500

taggacatga aggcgacgac ttcatcgaac ccattcggcg cgagtggagg gaagaaacca  7560

acgcgctgat aatgaagcta gagctggcat cgaggcaatt gcagagtctt gatattctag  7620

gacacgaaga cgtggaagcg ctcagccgtt ctgctttaat tcgaatggct aaaggtctcg  7680

gtgatctggt cagtcagatg gtcgaagaac taaatgtcat ccgcaaaatt gaagccgaca  7740

tagtaaaatc tgaaaagtct cgggttagtg agatggccca acaactggtt gagatgccac  7800

cgatcgagga actagcgatg ccgagaactg actttggac acgacccgcg ctcaaatcat  7860

gagagacagt ccaaccaacc aatgctatcc ataatcccgc taccacccccc cctctttccc  7920

gtggggtgtg cgatagccgt gtccttatcg gttaaaacca ggggacagaa cctgttttta  7980

ctgttctttc ggtccttcat gataccacca cgaaggtgcg ccctcagttg catttaaggc  8040

aggcgcgcgg tctaccagag ttctagtcta aaggattcag gctcaaaaac cggttttaga  8100

acatctacca ttctgggtat ttgccatgct catccatcgt ggtaggtgga agactaactg  8160

tcgaactgta caactgcgca cgaggtgatg gtctcaatgt tcaaatataa aaccttgtaa  8220

tgcactgctg atttgagtcg ttctatctgc acctcgacct attcggttga aacctttttgt  8280

gagtcaggag agacgcgggc ctcacatgcc actcagctat gtgaagctgt aaagattcgc  8340

cagagacaca ctgttgtttg gttaacatct cgattggacg gtttataatg gacttggttt  8400

attagctctg ggactccgta tataggataa tgatcataaa tatgatcata aatattgatt  8460

accatcaatt gtataagacg acttgaaatg cagtggaagg cgtgtatgcc aacgtggaat  8520

ccgaaatctg tctggactaa atggtggggc ctctcgacgg ctctagaatc cagcctcgat  8580

gacagtttcc gcgtaaagca ggttttcgct ttccgaactg cgtcactacg tcattacaga  8640

ttggggaaga acaaaagaaa agccgaccac ctgttctaca gagtacctat atcgctcatt  8700

agactcgctg ctgtgtctct tgcccccagt ccattactag actactatac cactgctacc  8760

cctccctccg aacatggagg gtgagagatt ccgtccagac cgcgatggaa ctgtctagaa  8820

accctggatt ggacatggaa gcagctctgc cagtctgcca ccacacggtg acaagtgtga  8880

catcaccgac catggtgatg atgctggact attggggatc gtgactctgc gataatatgg  8940

agggcattct gccagagcgc cttccttatc cagatagtac ctacagagca tttcgtacta  9000

cgagcttcag ctcgctgtac agcgccatag tctgcacgaa ctgctccgcg taggatctag  9060
```

11968

```
cacaagacca aggccagtaa gagtgagaga agagagtgtg agaccacaca aagctcttgg   9120

catggtggat cactggatct ccatccaaca gtgctcccag tcgctctcca gtcgcgcttt   9180

ctcgttttga tctttcctcg ccctcccgat cggtcgttcc ttttgctttt cgtgcaagcg   9240

gtgttgctcc cactcagtcc cagtttcaga ctcagtccca atccaatctc agtccagtcc   9300

cagtcccagc gcctccagcc aaagaaatcc atcaagaggc actactactg tgacctaccg   9360

tgacctaccc ctgatctcat tagtcctctg cgtctccctc ccccgctaca ccaccacttg   9420

attcagttag agacggccac attcttgata tccgttgcgc gccttcttgt ctctttcctc   9480

gttactgcta tttttatcgc ctggcattct gattcaagat acttcgctct tggatgtctc   9540

cgtagccgtg ccgtctcgtc cctcaagcct tcgcctacct ggcgtcactc tggcggctcg   9600

gtggtcgtaa gatgacccaa tcctaaacac tcaagcaagg cagtctcact ccacggacca   9660

cgaccgacgt cgatccgaaa ataatgacga ggtctctgta cgaccgcatc tggcttcggg   9720

aggccggtgg aggctcgacg aaggccaata ttcgcggcat ctacggttca aaggaatggg   9780

tcaacgatct ggacattgtc aatgagttga gggggccata cggactgtgt gaatgcgttg   9840

aggtatgtgc gcgaccctcg cccgtcccac ttttcagcat ctctttgtcg gcgcttctta   9900

atcattccca gcggctggga aactgatgat ttgcagctgg tcgcgatctg gtcgccttct   9960

cgcgtcgggg tcggatgatt ttcacttgaa tatatactcg taccagccag actcgtccac  10020

tgcaccgttt gcactaaaca ccagcgtctt caccggtcac acagggaata ttttctctgt  10080

cgcatttatg ccgcactcaa atgaccagac tcttgtgact gctgctggtg atagccaggt  10140

ccgagttttt gatatcgagt attccagcag ccggaatggc tcgcagggga tgccgccagc  10200

gttcgccaat caagcaagaa acccgcattt gaaccgagtt tttcggcaag gcgcg        10255
```

<210>   5809
<211>   11622
<212>   DNA
<213>   Aspergillus nidulans

<400>   5809

```
tattctacct catactccac accaatcaca actacccagc taaccaatgt taacagcctc     60

ttcctaaaga cgccgggatt gccaccaaag acgtccttta cccgtatgac gagtcatggc    120

cggcgaccag cgagaaactc acgcagcagg gcctcacgcg aacaggactg ctcccggcgc    180
```
```

```
tagaatacaa cggagagatc tacacccagg tacgctatgc ccacgccggc gcatgccttg    240

aatatcctgc aaggcaaccc gggtatccag gtgctttgcc ttactaaact ggcccggctt    300

gcagcacatc ccaaccctcc ggttccttgc gcgcgaactc ggcgcgtacg acggcgagac    360

cagccacgaa aagtacattg ttgacgcggt ggccgatacc tatatcgatt ggcgggtgcg    420

catctcctct tcctttcaac cactagtata gcggccgaac tttgcccaag ctgacctgga    480

ccatggcgcg gcagtctcaa tgggtcgcca gcctaaaggg cgcgacggac gaatacaaga    540

acagcgtcgt gcccaagtac taccgcattc ttgggcaata ctactctgag cgtccggggc    600

cgtacctgct cggcgagaag attacgtatg tggatttcgc ggtgtatcag agcatcgata    660

acgagaggag gacggggact ctcccggtac gtacctagtt tactgcactg gttaagctgt    720

tcgagacgaa gcggctgatt attgtaggag acgcttccgg agtcgctggt gaagctgcag    780

gatgcgattg aggcgaggcc gaatatcaag gagtatattg cggagcataa gtaggcgttg    840

agcgggatgc tacttgccgc tcgccacttg ctatgtgaat ggctggcgaa tggatagcgg    900

ttgttgtttc atggtagtct atcaggttga gtatcttaca tgctgtacgt ccatccaga    960

atgccgggga attacttgtg tggagagcca tatattacac catccactcc ctgtaagctg    1020

cggctctcta cctagtatca ttaagatgca accttccatc catcctcctg gcaacactaa    1080

ccgcctcgcg aactgccctg cccacgcccc ccctcacacc tctctcctcc atcaccatca    1140

gcccccccgat cgtacatcct tcgggactgg tccctggtc cctcaagtcc ccaggctgca    1200

gcccgctctg cagcatctcc gcagaccccc gcatggactg atagatcatc gcctgcgcca    1260

tggatctcgg tacaccgacg gcgacagacg catcaatcat ggagtcgaca atgacagcga    1320

acattgcagg agtcgatccc gcgacggcag tcgtggcgtc gatgagactc ggtggaatga    1380

tgagcgtttt gccgactctg gagaagatgg aggtcgtcag ggagagcgct tcttcggctg    1440

ttttggccgc aggatcgact tcgatggctg tgagggactg tcccacaagg gcgcagatgt    1500

tggggagggt gcggataatc gttgctctgg ccttcccctc ttcagctagc ccatcgccgt    1560

agatcgtctc tgtaagcttc ttcacggtcc accccgctgc gacgctaatc aacaatttct    1620

gtcctagagc gtcgcggaag cccggctggg ccaatccggc tggaatgaga gcaggatcaa    1680

gagcgagaat aaccacgtct gcagctctga tggcggcaat gttgtcatcg agtgcaattg    1740

tgaggtttgc ttgatcttta aactgaaatt cgagacgctc tttagatgag gggctaccta    1800
```

11970

```
tacaggcaat atagtgggtg aagagccggt ccggctctgg ggtggccagg acggatttga   1860

ggatggcggt gccgagattt ccttgttatt ggtcagctag acatgctttc taagtgaata   1920

tgacaacgaa ccacagccca ggatacagag ggtctgggta gtaggtttgg tggacatggc   1980

tagaataagt atatgaagtt gggttccaac gtgatggccg agatacacct gcaagatacg   2040

gtaaatgaag gggttgggaa acttattttg gagcccttca tgcctcttat ttctccaatt   2100

ttaatcttat cgcagtcggg aagcgagccg gtctcggttt tccacccgag ttcttaagct   2160

caacgattgc gttgcattat ctacgctgca gaactgatat taatatgcac aattccgtcg   2220

aactagaggt tgatcgatag tctcctgaga gacatatgaa tctttaatgg gagagctaga   2280

ctgcctttgc atctcataaa aatccagtgc ataactcagt ccatagagta gccctaaccc   2340

taacaagaac agctcgacac ctcaccccaa gccggggggat tacttagggg actaaagtaa   2400

ggagtaccat gactgcttca taacagtaag agctagttta ctctctctga aagatgctat   2460

tgtagagtca tgctaactac aagactgatc caattcagat caacatattc gttatacccg   2520

ttattatgta ctgaaccacg ggactgaaca atcataaatc ataaacatca cgtccaccta   2580

taataatcat gcgaacgact accttgacag cgcaaacaga tctttaccct tctagccatc   2640

tccctcttca gggctcgata ctcatcctcc gtccggccta ccgcgtcccg attctcaacc   2700

gccctcctta ccaggtatgc cagacactcg ctcagcctgc cccaggtcga gcacttatac   2760

accatcggct cgttacgctc attcttcagc gttaacaacc taaagctcac ctcatcggat   2820

atcccatgca gctgcccgaa tcccaccggc acagtcggca atccctcctt cagtctctgc   2880

agtcgaagcg catgcgcctt catgacactc tccttattat ggctcgccag gaacaactcc   2940

acagatggga acggcttctc tgtcccgaac gcgccgagct gccggcacag cacccctgt     3000

gcaatcccgt tataagccgc atctgtatcc gccttcgtct cgtggatcag gctccgctcg   3060

tctgagaaaa tgtatgcgcc acgaacaagt ttaagtccta gcgtaaaccc cacgtcgctt   3120

gcagcttgga gatgccgtgc aattgtggcg ggtgtgctct tcaggtacgc ctggtaggta   3180

ttgtagatgc gggcgtggcc atccttattg aattacgcat taggtccagg gtgacgcgga   3240

ggatgccggt caagaagtgg tgggattcgg cgtcgacgag gatccgcacc ccctttgcag   3300

cgcacttagt gctgatctcg tctagtgcag agagcatctg agccggtggg gggaaggtca   3360

gtcctgaacg cggtggtgcc ggaggaacct gcgcctgtca atctatgcta gcttgtaagt   3420
```

11971

```
agaagatgcc agagcagaaa agaaaccaac tttagagcca ggtaatcatt cgcgcccagt   3480

agctcaatcg tctcgacagt ctccttcctc cacgcttcta tatgcgggca aaaggcctcg   3540

cccctggcca acgtgggctc agtaacttcc tgtttcccgt acatcttggt actaacgccc   3600

aagcccgtct gcatcttggt ctttgcagca aaccccgatt ccgtcgcata tgtcatgatt   3660

gttccctgga accccatacc ggcgagctgg cggatggttg agcgcacttc gtcgggcgtc   3720

tcaccggcac agaactgtct gtaaaaggtt gctttgagga taaagtgcag gatgggattc   3780

cggtcgacat tgagcagagg accagcgcgg ggcttgcaga ggaatgacaa ggctgagagg   3840

gaggggatga ggagggaggg tttcgaggaa atggtagcaa tgagcaggga gcgaaggaga   3900

acgggggtgg ggagggcaga gagaggatga gcagcggctg ttatagcggc agactctgat   3960

tcagtcttgg tgtcgccggc tggaagagtc tgggcagatg tcgttgagtt attgtggacc   4020

tctactcgtt gggaaatctt tggattaggg ttgaaagttg agatgcgcct gccactggtc   4080

gacgatgcgg tcacggcgac aatgcgaggg aaggccggtc tcccagcgga taagagagac   4140

aggtgctctt gtgcccgtga tgcggcaaat cacagtttca acttacagat agtgccagaa   4200

atacttatag aggcctttgg atagaaacct ggtagctcgg ttccactccc ggtggcatat   4260

ctctatctta ctgcggggggg atatgcacca tcgatagcca tgttaccagg acatatacca   4320

cgtgtccatg tatctcccct tattgcgtac aagcctctgc ctcgctatca ggcccgatag   4380

ggtcaccccg cagataggca tttggcctgg tatcggacgt cgtgcctatc caatgaacgg   4440

atggggcacc gggtctgctg cgatgccagc atggttggag taggtaaacc ccagagaagc   4500

cagccagtat caagtcagac atcgtagtga atccatctac cgagatacta gttcctttta   4560

ttattacgca aatggctgag actgagacca agacagccag tacagcaaaa gagttcatgg   4620

tgggagcagc aggggggcata acgcaggtta tcatcggtgc gtctactatt ctgcctagtc   4680

ttctataaca aacgaaaaat cctgtgcact gcctcattca aagaacgcct agaggtgggt   4740

taggttggga cgtacatgaa taacaagcat tgtcgtcact atcaacccag gcaacgcaaa   4800

tccgtacgcg gttttcttga ccgtcggtcc tgcagagccc aaagccgggg atgccacata   4860

gctcccgcaa caatagtaca ctaccgtacc gatggtgatg tagactgctg taacaccaga   4920

caggctgatc atcagactgc gggtgtagta tattggatca cgcatctcag aaacaattgc   4980

gaataaggcg ggcatgccgc agtatgcgaa gatcagcgac gagacagccg tgatcgcctc   5040
```

11972

```
agtgaaggag gaattgctga cgagcttgta gtcgaagggc caggggccgg atcaggggcc    5100

agaggtgcgc ggtgcttctg aggggcattt ctggacgcca acggcgatag tgacggtaaa    5160

gaatgggatg tcaggtctat ctagggctag aaggggatgt gacagggagc gtactggcag    5220

taaggataca agacaatcct atccaagcag gaaagcccaa tctgcctagg gtccttatac    5280

tttcaaagac aaatccgata attgctgcaa cgacgacgaa aatggcggtg catgcgccgt    5340

acgtcgagac ggcgttcagc ccgattgata tgcctagcat tccggagccg gcaacgaaga    5400

tccaatctga caatcagtca gcggtctaca ctatgcagag atacattaag gatggatatg    5460

tagcatacaa agcacgaatg cgcccctaaa gaacagcctt ccaactcgtc caaacataag    5520

cccaacggcg tcagcaatgg aatacacctc acggtgattc agcttgaaga caccaatcat    5580

gtagtctgac cacgtggtaa taactgcaat agtaagcatg cagatcaaac ccggtatcag    5640

acccaatgta tcgatgcaga cgggatcgag aggatgccca agccgacctg cgtcttcatt    5700

atcagggcga cggtgccgag ccagtcgacc tgtacctcca gtcaattgca tccttcttga    5760

tagggaagaa taaatggaac ggcagcatac atcacgatag ttcggcccgt ctgcagagat    5820

actaccgaag acatcgtcat gggctgtggc tagatggggt tgtatttcgc ccgttcccag    5880

tgtggaggtg tcttgggcta gggcaaggtc ttcaggttcc tgtttcatct tggattctga    5940

ggacatggtg atggtggttc aggaagtcat gtataggcgt gttgaggact gagggctatg    6000

ctggggctca aggtagggga tgtgctgtcc ttttatgcca tctacggcta gggcaggctg    6060

tgcgccctgt cttctcctga tgcagacagg ctatctgcgc tagttacatc acggccagat    6120

gagaccactc cggggaaacc gaaacgctaa tcaacaaact gggagcaaat gtcatggctc    6180

tagcgatttg ctctgctaac atgcagtggg actcgggagg cccgccgtgc gccatttatc    6240

aatcccaaat caggagccgt agcggtatgg gggatcatac cggagtgtac ccggtccttt    6300

tggctctcct cgtgctctcc tatgcttatt gttcagtctg tagtctacca gtcctcagtt    6360

ggttattcct ggcgactagc ggcattccaa aatgacatcc cggcctgcat tcgcagaacc    6420

ccatacccccg aactgctatc caagcactca ctcctgtatt ctcgagcagc ccgcatgtaa    6480

atgctcgcca gttccagcct ggaagttttg cattggctgc actcgctatg gacaatgcat    6540

ggtcggcgtc ctttatggtc agtgagactc caaagccggg ccgggtgttt agtggcgggg    6600

cgtagatgcc ggtggttaat ctgtacgtct ctaagcctgt tgactctata tcggcagatg    6660
```

11973

```
ccaggttagg tcctgtacgt accgcttcga gtatcccctg caacagttcc aaaacgactc    6720

ggtgattagc tcctccattg ccgctgttcc gagacctgtt cgctccgcgg agacttgtgc    6780

ttccccgaca gcttccatga gattcaaggt gatgatattc ctgcatcatt aggataccct    6840

ctctgatccc tatagtaagg agtacatgtt agactcaccc ccctatcttt aacaaactca    6900

cactcctcgc ctctgtccca cactcaatca ccttcttccc cattacgcct acgatgtacc    6960

gtcggatatc gagctgattc tggttctgac tcggtccgcc aaaagcaaac accagctgcc    7020

ccgactgcgc aacagctggg cctccaaaga ctggagctgc aaggaagacc gcgtcgagac    7080

cagagagaat atctgaaatg gaggccgtag tttctgggtg gacagtcgag cggttgacga    7140

atgtcttctt atcaatgatc gtggatgagg atgtgattgc attgaatgtt tcggtaagga    7200

ttttgtcttt gaagataggt acaaacgcca ttcgtcaacg gttctgatca aagatactag    7260

aaggggatgt gacggaaata gagggtacca tagtaaagat aacatcactc ttcttgacca    7320

ggtccagcaa actcgctgca gggattgcgc ctagttctct gagagggtcg ccagcggata    7380

gtgtgcggtt gaagtaagtc aggttccgtt cgtctggact tttggctagg tatcgctgca    7440

ggttcgcagc catagtaaga cccatagagc cgaggccgta ctggttattt ctcgctaaca    7500

tctatataga tattgtttac ttctgaatgg agacttaccc agccgatgcg cggcgccgtt    7560

acgcgcttga ggatcatggc tttgaatcac tttctcgtca agttggcagg gcgaatacgg    7620

tatgctaaag cacttgtaat gtagttatcc gtcggagtaa atgctgatcg tgatattgtc    7680

ggaacctcga tccgaccgca tctggaaaag cccgcgcagt ttcggccctc ctcccgagac    7740

ggtgtttgta taataatcct acgcgctaac atatcatagt actaaactga gaatcgaaaa    7800

aaagaaccca tatctctcaa ttcaaggaat cccttaagaa acaaaatgtc tttcccccac    7860

gttccgccgt ccggcatctg ggttccagcc gtgaccccct tcgatcacac agccgatacc    7920

atcgacatcg aatctttcaa gaaatactgc gcctacttat catcccatct aactggcctc    7980

gtatactcgg cacaaacgcc gaagcattcc tgctcacccg cgacaaacga ttcgcggcca    8040

taaaggccgc ccgcgaagcc gtcggccccg ggtatcccat tatggcaggc gttggtgcac    8100

actcaacaaa gcaagtcctt gaacttgcga atgacgcttc agaagcaggg gcgaattacc    8160

tcttggtcct accgccagca tattttggca agcgacaact cctgcagtgg ttaagaggtt    8220

ctttgcggat attgcggcaa aggcactgca cccagttgtg gtctacaact ttccaggtgc    8280
```

11974

```
cacaaatggg gtggatattg actcagaaac aattgctgat attgtgagaa cgtcgaagga   8340

ggcgtcgggt gggaagagca atgttgtcgg tgtgaagctc acctgtgcgc aggtcgagaa   8400

gatcacgcag ttgacggcgg cattcgggcc cgatgagttt gccgtttttg aaggacagtc   8460

ggatttcttt attggtgtct gtcagtgggt tctgttaggt gtatcgctgc gtttgtcaat   8520

gtcgtgccca agacgattat acagatcgac cggctgtaca aggctgggag gtggagaagg   8580

cgttggctct gcatcgcaag gcggctctgg cagagtctcc tcgcaagagc aagattgtat   8640

ctaccaaata tgctgccgcg attgtgtcgg cctgtagggc ggggattgag aatgcagaga   8700

agttcatgcc gaggactcca tatgaggcgg gagagcccgc aaaggctaat gtgaggaagg   8760

tcatggccga ggttatagct attgaggata gtctgtagtc gtatctagca ttatacattg   8820

atcatgagtc atcagttaaa agttttttag aagtcaccag atctgattct cagtaactgc   8880

atgcgcaacc caatccacgt cccctgtgtc gatggattct gccactgcca ttatctcggc   8940

cgttgtcagg ccgtcattca aacccggtag ctctgggatt cgataggcag gtggcaatgg   9000

tgatgacatc tcgagcccct tctctttact catatcatca ggttggcgat ccgttgcgaa   9060

ttgatacatg agggcactta accgctcgag ctcggtcttt cggtactgcg caatgagatt   9120

gccccgggaa atcatgtcgt ccagtatcaa atagctcttg tctagccacg gcctccgact   9180

ttctagaaga ttatggtcaa ttgcctgtgc cattaaaaga actacactgg agacaaaagt   9240

ggactccaag tcgaagggca agaaagctgt ctgcggggtt cagctcagca tgtttagtcc   9300

agcaaggcta tataccgaga aaactttgtt cgtataggct attgaggatg ttaagctgct   9360

gctgtgccga gtcgatacat acttgcagca gtcggagcac gttggccgac gagttcaacg   9420

tctctagaca tgcatcagca gactgaaagc gcattttcaa aaagcgcaga agtaacgggc   9480

gtgttgcaag gacgatgcac tgcacatgtg agcatgaact gccgagttct tactgggtgt   9540

ccaaaacata cctggtggta gaggagatgc agatgggccg acatcctgga gactccgctt   9600

atagtcgatt tgtccagctg caaatcaaac gacgtctgga gatcaccagt caggtcggta   9660

gtactagcca gcgccgcttt ggttctcagc aggaattttc ggttgagtcg gccgtccgct   9720

ccgtatacag ctacttaatc agttactttc ctggcagtat tctgggaaac atactgctat   9780

ttatctctgc tataatctgg cacatgcgga tttgcatact tagcgctacc accttttgag   9840

gtgacccagg gaaggaagga agctgagggt ggatctggtt gtcttggatc gactgtggta   9900
```

11975

```
accccatcag agaggtcatt tgtcggtcta ggacatagat cgtccaccat atcttgcggc   9960

atctctggac aagagcttct ccaaggtgtt gcaccggcat gtcggtgtgc atcccttggg  10020

cgagggcaat catcatcgct tggccaatct atatcgttag ttgctgaaca acccagtaag  10080

agtattacat acaaagttgt atgcagagtt gcgatggtcg agcgcttgga gatataatgc  10140

aacaccacaa agaatctccg ttgctataat tgagtctcta gcgaggtgcg tcgtatccag  10200

cagcaactgc agagccctgg agatgaactc acatcccgag ggcgggtatc tcgatttcgc  10260

tgaacaacaa gtgctttccc aagggcaata attaccagat agtgaatgta ccacagtcca  10320

cctgtggtca tctgctgctg aggatcttca taaaaggcat ataatcctcc catgaacgtc  10380

ccttcatcaa aaaggtggta tagctgtcct gcgtgaaact tgacagcgtt gatcaagtag  10440

attgagtagt cgagggttgg aactacaagc gcttctgcat aaactgttgt tctcaacccg  10500

ttccagccca ggttgtatgt tgagccctca aatagaaggc tatccgttgg aaggggagag  10560

tgatagaggt tctcatgggt catgcccaat attttccgag caaatgacca gttggatgaa  10620

gttcctaagt aaactgtatc cgtgagcttc ttttcataga taagattcga ggacacccac  10680

aagtccggcc agtcaatgat gttgtaaagg ccgataggac agtagacaaa ggattcgtga  10740

gatccacgcc ttcaaagatc tgactatacc gaaagttcgc cgggtcatcg tcccctcctg  10800

caagggtcag ataagagtcc agcaaacgta gagacgcgta ccatcttccg gtctagctct  10860

atcttgctca acccaactac ttgaacttgc tagctcatta tcgccccgtt ccaataaagc  10920

aatccttcgt tggaggtctc caataaatct agtcgacgtc aggtcgcacg gacggagcag  10980

aggttgttac gtaccctcga gtaacgagta ctttctgatc tcggtcatcg aaaacacacg  11040

tcaatttgcg cttatggcat atattgcagg gctgaaaccc ggagcacttg attttctgtt  11100

tgcggcaccg ctggcacctg caagcatacc ttgggtcagc tgggccgaag ggatgtcata  11160

gttcacatac gcatttgttg accgcttcct aacgccgttc tccttatgtg atccgtccat  11220

tatgataatt gtcgagcgtc tcaatgtaac tcatgtaaag gctcaaactc gcgagtatat  11280

gacacgacat tgggaagcgg acagactccg aaatgcgggg agaaggatcg ctctcgccct  11340

gatagagacg gtcaaactgg ctatcttatc agagcaggaa ttgttgccct gaataggtat  11400

gttgaggaga ccgtgcagca gtagtcaata tttggctcgt atctgccatg cctgctcgtt  11460

gataacagca gtcgggagcg cttccggtct gatatccagg tatcggctac cctgccggag  11520
```

11976

```
ttgggttagg atgacgatct tcgtccccag ttttccaatc gaaagggcca gttccccatt 11580

tcacttggca ggctcctccg caattctcga agcagatcag ac                    11622


<210>      5810
<211>      5013
<212>      DNA
<213>      Aspergillus nidulans

<400>      5810

cgacggagta cgttggcttc ccccagtata tttccagcct cgcgaaccag gacacctggt   60

ctagtcgtga gtactggcgc tcgctcctca aaggctgtac aatgccggcc atcagctcat  120

cctcgcaacc cagacgtcta ccatctagac aggtctacca cgattctcgc cgtgttagtt  180

tcaaaaccct tccagcaggc atcactctct caacgatcgt gcgatcggcg tgggctctga  240

ccctaggcca acacgtaggg aacccagacg tactctttgg ggaggtcgtc tcaggccgca  300

acggcgaccc cattgccgaa agagcagccg gatgctgcgc aaatctcgtt cctgtgcgcg  360

ctactatcca cccagcctgg accacacatg acctcctcag atctgtgcag caacagcttg  420

tttcccgcct gccgcacgaa tccctcggat ccgcgactt gatgcgcaac tgtacggata   480

tgccagttgg tacagtcttc acctcgctcc tgaaccatct ggaccaagca tccgagtgga  540

cgcttgacct tgatgatggg aaatacaatg tctctgttgc gaagactgaa ggtgcgggtg  600

atgtctctga tgtgtcggtt acatcgactg ctagtacaga ctatgttgag attgccatgg  660

cttacctcga agatgggggtt actgtcgagg ttgcggagaa gctactcagt caactgtgcg  720

agactgttga tgcgtttatg aacggggctc tggatgctga gctacctact gttgattgtg  780

tgtctgagct aaatgctcaa ggagtgaatg aagctccaaa gtttgaaggc gatctggttg  840

atgccagtct tgttgccttt gaactccaga agagaggtca tgaagtaact gttgatgaag  900

ttgttgaccg aggccttagt ctgtctggtg tctgatttct gtacttttca tgtttttcgt  960

tttatctgtt ccgcagtagc tatattgttt gcttgtttat taacaatgtc aatatttccc 1020

caacggtgtc cactttaaat acatcaacca aacccctgta gaagcaggcc cccgttatac 1080

cgtggaaaca tcctcaattc tttgtgtctc taccccttc tcagtcacag tatcgctctc  1140

agcctcctgc ctgtaaatgt gctcctctcc aaagacccgc cccatctcct ctagtgttcg 1200

cccttttcgtc tcgggaaaca agaaataaat gcacccgaca tacagcacac tcggcacaat 1260
```

11977

```
aagcacaaga tagaacctcc acccaacacg atccaaccct accggcgctg caacaagggt 1320

cacttcactt gagagataaa accagcccag tcccagcgca actccctgac tgcgtagatg 1380

gttggggaag atctcagcaa tgtagcgcaa actgcgtcgc gtccacgaag aaacaccacc 1440

agaagatata gaagaagatg aagaagacgg cagcccgcag tccggggggtg ttgtctgtat 1500

tcaggaaaga tgccgtcagt gcgcacaaga agaccatgca cagtgtgcag cctgttgcgc 1560

cggcgagcag gaaacgacgg cgcccgaagc ggtcgatgta cagtgctgtc caggtgtttc 1620

cgataagcgt gaatgatgtc cagcaggcat tcagaagcaa cgggatagac cctgttagac 1680

caagggaggc gtagataagg actccgtagt tggtcagcac gaaggtgccc aggaactggt 1740

ttccgatcat gagaatcgtc gcaatgagtg agcgtttacg gtttgcgggc gtagagaaga 1800

gtgctagcgc tggccacctg gatttcacga tacgcgactg gtcgagttcg agctgtttct 1860

ccatcaggct gaactcttcc cgcgctttgg tgttgtcgcc gttgctatgc ccgttggtcg 1920

agtgcagttt ctgcagcacg cttagagctt caacccctt accttttgcc aacagccacc 1980

gcggtgactc tggaataaac ggcgcaccga cgagcacgca cagcgggaaa agcacctgga 2040

aggccagcgg aaaccgccat gcaaactgcg ccgctgggct cgtcgcctcc atgaaccagc 2100

aggcgtaccc taaccatccg gcaaggctat agccgaccgc atacatgacg cccgtcacgc 2160

agaccatggc acccctcgtc tctgccgtcg acacttctgc ctgatagatc ggcacactac 2220

acgctagaat gccagctcct agaccagcga caaatcggcc gaccagaaac atggccatat 2280

gcacggcccc agcgcacagc gcgccaccta caatcagcac cgccgcgccc aagcggatgg 2340

tggtcttgcg cccatatgcg tcagagctcc aggcttgcag gatacaaccc atgaaggcgc 2400

cggcggagtt gacgccattc aaggcgccga tcatattcgt cgtgtgcttg tagtcgggat 2460

cggtggtgtc ggcctctagg tcgaagaagg tgtagaaatt cggttggccg acggtggacc 2520

caatgacggc gaggccatac gctgtcgaga ttgtgcctat ggccacgagg attacaacgg 2580

tgaggttgta ggtgttcacc gtgaggtgag ggaggatggg catggtgatg tcgttgtag 2640

cggctggatt gcggatgcac agttgtgtac cttggagatt aaaggcaaag ccagccaata 2700

ttaaaggctc gtcaatcgtt tatagggcat ctcagatata gatacatgcg tgacgtactt 2760

acttgatctt cgtccagccc cggctactcg ggcccatctc ttgtctaccc cgcatatttc 2820

cccagagcca aaccgaacgc ttatctgtgc agacctgcat cccctatgga atagcacggc 2880
```

11978

```
cctcggctgt agagcaaaag caggagcggg gggattaaac cttgatgaaa tgcggggaag 2940

ctccagatac gccaggatcg cccttgatct acgcatctac acgtactcca acgggcgggg 3000

gcaggggggta gggttacgcc tttcgtcctc gcatcacctg acagagccat gctgaagcgc 3060

atggctctga cgaggtcggt ggagatctga gggctctgaa gacatggcgg agatgatagt 3120

tatgatcggc gtttagctac tatcagagat gcagtgtatg gccacgatac gtgcgcctaa 3180

agccgcccca gaatgctcaa gccgtagtag acagactcac ctattggtga tacgtgcaaa 3240

gcagggtcgg cattcgtatt tttgcccgag gtaaagtaaa atcgtctagg tagggtctt 3300

tcgatgacgt caaagagaca gactctagcc gccattgagg ggtcgtcggc aggggatagt 3360

aaaaggatag ggtatatgga tggaggagtc aagggcaatt tgggtaggat atcacctatg 3420

gaaggcggct actggccggt tctgatgcat ggtactgtac gtatatgggt atatttggcg 3480

tgggcaagac tgttatgcac gctagtaaac acgttcaaga ttctttccca ataaggctgc 3540

aaactgattc agctccgtcg cgtctagtgg tcgcaaaaag tacccgcagc tcttgacgag 3600

ctggactgcg tcctgcggct ctgcgctagg gcaaaacgtc ttatgtcttg gtgatattgg 3660

cagggataag aaataggcca aggcaaggct tacggtatgg agttgtgggg tagctatcaa 3720

ccattattga acagacgaga agaaaagaaa agaagaagag aaagctggta atggttagaa 3780

tacgtgagtc aatgttcgag aaatctgtga tctctcacgg gctgcaatta gggtcaggag 3840

ctgaaatgac caatggattc tgtacagtcc caagaagact gtaagggagt gtgagatcta 3900

cactccgcag aatatatttc cagaaggaat ggactctgag ctctacacaa gcagaagcga 3960

ggccaggtat aaaccaatcc aaagcaatca attattatct gaataaagag atatcagttt 4020

atctggtgaa cagcctgtca attcagccac agaatgctca tcgcctgcag tcgccttagg 4080

cttgctgtta gtcgcaggcg cacaattgat gctggacaag taaacacggt gcgctggcac 4140

aatctacaca gacaattgaa gcatccgcag tttttcccac tggtattcag atatcgctca 4200

aatacagctg cataaggact gcttgatgcc atcactattc gcgccgttca agcggaggca 4260

cataggaagg atattacgag ttcgatatca cagaaatagt atgaaacaaa tcctcgtact 4320

gcccaagcac tcttctttgt cgaattgaaa ttgccaatac aggcccggca aaaatcattt 4380

acttcaatcg aaccccgcta caacttccta ggtctgtctc ttgttaaata tgatatggca 4440

gcatcatgcg tatcttagca tcaatgccgg actagactcc ctttatgcgg aagctatagg 4500
```

11979

ctgacgttag atactggtta tactgatgca agattggtga cttattaagg ccggcggcgc 4560

tgcttcgata tggtaatatc tttgaatttc tggcgtcgtt aggtatttag gtatttgaag 4620

gattgaacac tgtccagagt agaagccact gcttagtgtc tgcttcaatt cctttcgacg 4680

gacaggccca agacaaacat cgactctaaa gtgctgaaat ccggaatata ttgatcttca 4740

aggcgcctcg atgagcgtgt ctatccaacc aaaaggctga aatcgcaaga agggcaattg 4800

taagaataat cgtgaataag gaatatgcag cgcaatgaga caacaaaggc cgggcctaaa 4860

gccatgatgc tcgtggcgta aacccgctgg tacatggtcc ttatagatgg gatttgcaga 4920

gtagatatca ttctctctga ccttcattga cggatgcttt cacgcaatat ccctagggcc 4980

ctctggcaca ctctgtgtac gtaatgaacc ctg   5013

<210>   5811
<211>   4694
<212>   DNA
<213>   Aspergillus nidulans

<400>   5811

caaggctatc acgctatcac gctacagcag gttcggatgt agacggtacc taagagtttc   60

tatgtcgatc aagattcgaa agatacgaat ttagaacggc gacctgaagt ctttgtatcg   120

ggtaggatga ggaatagttt cgacttcttg agctcaatac aagcaaccat atccaggaaa   180

caccatcggt caggccaccg tctgcagggc ggagaaaatg tccttccacc tgcgacattt   240

ccatgatcca gcacgcatgg aacataagaa agttggtaaa gtttgtgtta agcttttgtc   300

gatagagtaa gaaggttctc ccaatcattt atgctggaca atggaaggta ctgacgggag   360

gatatgcgac tgaacggagt aatgcatgtc catatttcag gacagcgttg ctgtctatct   420

tctcagctgc tcgttgagac tctaaaactg cggcgttttg gccttcgatc ccgtatactt   480

gggcgaggca tttcaatata gatataagag caatctgagg cccaagatag aggtaaaggc   540

atacgcatat gagtcaggta cagactcaaa cccagtgaaa atgtggaggg gactttgttg   600

ggatagaaag agagtgtcag aatagtaaac gctatatgaa ataatagaat atatagacaa   660

tggtaaccgc taattgctat catggcaatt gggttagggt tacagctgtt aaattataat   720

aaagaaaggg gtaaacgctc attctatgaa taatattgat gccgaatttc tagaaagtaa   780

agttgcagcc agacaggatt gagcttggat atccaaatcc gcttggcttt catcgaagac   840

```
agactaaagg tgactgggaa gtaatinaggga ggccaagtta taatctgtcc aaacaaactg   900

tgtctgggca atagatatac accattcaag actgacatgg catttgggga taagcagacg   960

caagccaaat gtgaaagctg ctagggaaag agatttgtga ctgatcatat acaagtgttt  1020

acaagggagg ctgctagatg tcataggcaa agacccaaag aaggactatt atataaatcg  1080

aataaatata aaattgtgga tagggaagga tgtacaacct ggaaaaattg cagttctatg  1140

ccaataaaca tacaactcct tagatatcca atctggtgcc gcaggtaatc taggacagaa  1200

tccaatgttc gcaaggggtc ccaaacaaag tgcaaaaagt tgattgaagg aatgcaacat  1260

gcatgaacat tcttgttaat tccctggcat catggaacag cccaattgtc tatctgcaac  1320

cgtcaccaga tacacatcca aatgtcttgc ttctcttatc ttcatcagac accaacatct  1380

ccatctaatg accctggtcc ggcagttccc caacgaaacg agccctagac tcttgaaacg  1440

cttcaagaca tctgttcaac tctattgacc ttctcaaatg gccttccatc cactccgcaa  1500

actcacgatc tataatctca acagtaacat cgaccatccc cagcgtccca tgaaacaggt  1560

ccagaatttc aggcagtgca gcttccgcct tgcagcggtc ctgctcgaaa tcaagcgtca  1620

ccagcacagt tgggacggcg cgcccctcat aaaggttgta tgattgcctc gtgcacacgc  1680

agatcatcgt cctggagcgc gggttgtgat ttttcagaat atccttgacg agggcaagga  1740

ggatgggcgc atgctgggcg aggactactt ctgagttcga gctcgagtta gggtctgcgt  1800

agaacgttat cgcgggaagg gtgcagagca gtccgccgcc catgcgggga tgtacggggt  1860

cgatgtatat ggaggtccaa ctattatgac aaggggtgtg cggcgagacg aagggctcgt  1920

tggggaagat agctgcgagt cgggcttgcg ggcttagatc gatggtgtcc tggatgtcaa  1980

cgaagctgaa atggttggag ccggtggaag tagaacagag gctctcatcc agagtccggt  2040

gctgagcccc agcaccaaca ccagcaccag tccccgctcc aggaacgaag atctcagctt  2100

ttgcactgag ttcgcttccg ctggacggac tgtcctgtgc agagcgggag ccggggctga  2160

agctggagat gaagcctcct tcaacggcag agcgacctgc ctcgttagca cataggccaa  2220

aacagaaaag tgcagcaaat agagagtgac gtttaccaaa agcagggtat aaagcatagc  2280

cattgccgag ttgcgcgcaa tcctcgggag taggtcgaaa ggcatcacgc caggtgttga  2340

acatttcatt catgaggaca tcgtagcgca cgtcgtccgg catctcgagg taatgtagat  2400

ataaaaggta gcagcacgaa agggttgagg gcctgaaagt atatctgcag ggtaaattcc  2460
```

agaaaatgat ggggagagga agcagtcgat tcattagcag gggggacggg tatacacagg 2520

cgctggtgac gatctcgccg cccggaacat gatcgcgagg ccttatcgcg tgcgcccgag 2580

gtcttccaga aaccttgcag gagtgctggg ctggtccaga tctaatctta gcaacgcgga 2640

cacattgtcc gcgtatcagg gagcgacggc ggctcacaac tcttcatgac cttcagtggc 2700

aaggtttatt cgttcgacgt tgactcaaaa acatcgagaa cgctgaggag gaatgaattg 2760

gtctggaatt gtcaggaatc gctctgggta tgagaagatg caaaccatgg gcctaccgag 2820

ttgagagact gcagtgtctc tcgtgtcttt tcgacctctc caggggcgag gcgggcattg 2880

agaatctgga tgagcctcga tatcttctcg tcatcggcaa caattggtcc caagatagga 2940

cccaactgga tatcaaacac cccgaatgta aactcgaagg gagaggcacc gacgcttgcg 3000

ttccgtgcga taccattatt cacagagatc agataactgg acgtaggctc gctcctctga 3060

agatccgcaa tcaccagccg caactcttca agcctttctg ggtgcgttag tcttattccc 3120

gcgtcgagaa cgctctgcag atcctcgagt gctgaccctg gaacaaggaa accttctcca 3180

taataaacca gccatgtcca aacacgcgct gggagcctct catcgcgggt cccgggaggt 3240

agcagcggcc gaatgaggtc caggaagtca cgaaggactt ccaacattcc aggaaccgtt 3300

acagctgcca agctgacttg atcgaagaaa aagtggagat cttctgcaag gcctgccgtg 3360

agaggaacag agcgcttctg catgatacca gctactgcgt ttatagtctg actcttaaat 3420

agggaatgca ccgcatcaag aaagctctca gcctcggaaa tgccctccgc ggtcgcaaac 3480

tgcgtcttga tgttcgtccc tagaagatcg ccgaatgcct tatattcgtc acggctcaga 3540

tcgaagagtc cccgctcgtc aaagatggtt ctcagtcgac ggactcgttc ggcagtcaac 3600

accttcttcg cgctccccat tgaagcggag attccattca gcgtaaccgg gtcgttgacg 3660

acaattagga actcggctac ttcgggggac gtgagtgcct tccgccataa tgtgactcga 3720

tcagtcagag cctgaatata gcttggttgg aaggtagtca tgagccagtg caagccgcgg 3780

tatacggaac ccaacactgg gccaaggtca gcacccagtc gctcgaagaa tgtcttgaag 3840

tttcgataat gcgatataag cgatgggttc aaaacagtgc ttaacgaatc tgctgcaagg 3900

agtgcaaatg agcgatactc atccggcacc agcggactgg agcggataaa attcttcagt 3960

gcggagagga cttccggcgt aagaactttt cctgcattat caaacatcca ctgaactgtg 4020

ggcgcgacct cggggtctga aatcatgtgg tggattcgtt caagaggaga gagtgaccga 4080

11982

```
aattcctcgg aaagtttgga gagtttctga gcaagcctgc tgaatctccg cattgcttcg 4140

agacgtgtga ggatgtcttg agtcggaggc tgggcattct tttgccttgt ggttggactt 4200

ccagttgact tcgaccttga ctgctttccg gcttgagaga gcggccgttc tgatgttgat 4260

ggtcgacagc gtgtactgtc cacagatccg ggctgcacca accatgtgag gtgctgcaat 4320

gcttcaaggc catccaggat attcacgctt gaggctgggg gtgggactga atctgaggga 4380

agacactctt taagcagggg ggatcctgct ctcgtccccg ttgtccctac aaccgaatca 4440

tcttgagcag gagcaagtcc acgttcacca ctgtcggatt cccccgatct gaacccgtca 4500

gcaagcactg catactgttg taggatatct cgagcattgt tggcatttgc atccacattc 4560

gtagccgtag ccgcatccat gcccgagcag gccacgctgt ccaccagggg cactggcgtt 4620

ggcgtatttc ccatgttgtt ggacaatttt ccatccatac ttccagattc acaggaaacg 4680

agccagtcaa ccgt                                                    4694


<210>     5812
<211>     6307
<212>     DNA
<213>     Aspergillus nidulans

<400>     5812

gaaagtgttt atagagtaca agaggcgtac cgggaggaaa gagtttgtac agcgtgcaaa   60

tagtatcttg tgtgtgagtg tgcgatagct taactgacgg catagtatct ctctctaatc  120

ttaatgccgg gaccagatcg aggtggaatg ttgatctgct gtttcaccag gggcagagag  180

gtcaagagag tcaatagtcg gacaacaatg tcctgatcac taggaacaaa cttttattct  240

taagaagtag agggagacgc ggacattcct cagctatttt tgcactggta cggttgctaa  300

actgaacaga acggcggact gatctgttcc aagacaggtg gtatgtctct tgctgaagtc  360

gcctctctgc ttggaatata cgggtcatac catggcctag ataaaaggaa tccctgccta  420

gaccttgtct ttaatgagct attctggcag actttagatg gcttatgaag aattcctgga  480

agacggcaga gctactgtga ggcgaaaagg ctaccaaaac atccctacta ggtctatcac  540

gacaacacac gggaaacata tcaatactgt cgtggctaaa catcttgacc attggcctag  600

cgccgtaagt tgtgcaagtc cgattgaagg ccctaagtgt agcggcgcaa aaggcgcttc  660

tggctagcaa tggaggttat aggaataagt aatcgcgttg gttggcagga cccttgtgcc  720
```

```
gtgaattggg aatttggatc acataggtta agggtattcg catatggtgt gcgactctag 780

gaggtgatgc cacattaacg aagtttgcac tgatttgatg aggctatagc taggacttta 840

tccacaagca tgcgtcattc aggatctgtc aggtcatgct gtttcctctt cgctaagaaa 900

taagccgttg acttactgat aggtcatagc ggcaggtcct cagtacctag ttttctgagg 960

cagactcaag ctaccaactc gccttctcat cttttttttca tcctgcctca atcatacaca 1020

gcaatgccca caacatcagg agcatacttc gtaaatcccc cttcgccccc ctcattgctg 1080

agcacaagct cgttagttcc ctttatccac ccatctgtca gaaccccaag tcggccagaa 1140

tcccaccacc cgagtcctgg gccaaagagc tcactatggc gtcccgatag cggaacctcc 1200

agtctgactg ggttattatc attgactttg attgtgagat tccgcgagtt tgcaccccat 1260

ccccaggaag agtcaaatgc gacctcattg tttatgtagt cgatttcgag gtatttggac 1320

cccgacgttg aagagttgat gtgggccgtt gcggcgcttt ctgtgctgag atcgacaatc 1380

ttggagccag cgggaagaca gtatgcgtca gggcaggtat atgcgcctgc tggggatgtc 1440

agagtaaagt cttgcgcgcc ggtatagtag gttggctctg ggggactgag ggtaatggaa 1500

gagaggggag gagcgttgcg gatggtgatg gtgttattgg agccggcgat taggctgacg 1560

gatgttgata tcgaggaaga cccagctggg atagaagttg agattggcct cctgctgctg 1620

tctgtgatga tagttatatt tgtcgcagct gcagtgactt cggtaagggt gatattgagc 1680

acaaagttag ggcttgaagt gatggcgtag acgtcggaga atgtcgtcac atcacttgcc 1740

atacatgtca acatctacca gggcattgat caaaggaagc gaaactcacc gattcgtggc 1800

cgcaaacaca tctgccggat acactccctc ctctaccgtc tcagcaagct gcaccagcat 1860

cactccgtgc gcctcgacaa cactgctgta gcttgtcttg accccattca cggtttcatc 1920

cgcccagaca ttctgcagtg tctcagcgta ctgcagccca atgtccggca aatcaagcgt 1980

gatctcccta tcctcgtccc tccagttgat caccgccgca atagtcctcc ccccttccaa 2040

aggcccactc catacctcat acccttcgtc actccacctc cttctcaagg ccgcgctgac 2100

accaagagcg tcctggttga atgcaataac atctgcatta ctcagaatct ccaacgattc 2160

cgccctcata cccgggattg cagccccaat cgtcaagggg ctcttgagga tactccacag 2220

cgagaaatgc gtctgctcct caggcacggt caacactcca tcgagcccga caagcaacat 2280

gtctagatct ggccactggc ctggcccggc aaagtcggtt tgcggaacgg cctggttgag 2340
```

cgtgcggaag atggagcgcc agtgaggtat aatgtcgttc ccgatacgcc acgagtggcc 2400

aatttccggg gcccagaggg cggggaagtc gatacccccat tcgcatactt ggaataggat 2460

gtcccggtct tgggcttgga tgtagcgaga catgtttgca aaacggggggt gcgggggatgt 2520

tgaaggcgcg taattgacgt ttgggtagtt agttgcggcg tcagagtagc agttgtcgtc 2580

tgacttgtta gcattctaag actagagaat aaggatatgg tatagagtac atttcagcga 2640

atcagctccc cattcggcga aggttcttgc atcgatatcc tcgtagtctg tcatcccaac 2700

ccaatcagca tattttcgcc cggcaacaag cggaagaagg caaagaaaag aagacataca 2760

caagctccct gtaatgttgg gcggactccc acacagcaga atacccgagt cgccgtagac 2820

tccgaacagt agacccagat catgcagata ttgacccatc gctgggaagc cctgcggaaa 2880

gagctccggg ttccaagtga tcgtgccatt gggcaatctg tcctcgacgc cccagccgca 2940

atcgatagtc acatagcggt agccgaggtc agcgaggccg gtgtcgacta gggcttgcgc 3000

gttctcgtgc acaatactct cgttgggaaa gcagttatat tgattatagg tgttccatct 3060

atatcggcat tagtgaaacg atctggaccc ccaagaaagg gaagaattag ctgacccccat 3120

ctgaggcgtg cgtgctagcc cgtcatcgag acggggcttg agggctggcg ctggggatgc 3180

cagggccgtg gcggcaacga ccattggaac gagggctctc atgcctgcga tctaacactg 3240

actggctggg tacgaatgga ctctgattct tcaatctctg ctccagatca gaccatggga 3300

atttatagat tgctgcaacg acagctgccg ggaaatttcc tattcgagat gcagatcatg 3360

cagctccaag aacgcggtta ggaccgcggt taatatctgc agctcgcacg gtgcggggta 3420

tgctacaatg aataataata ctgctgtgct atagcctttc aagtgttgct tttgtccagc 3480

actcaatctc gccctgcatt gagtacatcg cgctggagaa agttgccgca cctttgcctg 3540

ttctgatata tggacggccg ctagcagagc cctaatattt cttatacaat cctcaatgtc 3600

ttgtcatatt atgctgtttt catcatgctg tcatccaatg tcatagtctc acagacgaac 3660

agtacgtatt ttttgattga cccccctgaa ccccggtcca ggaaattgaa ccccaacgac 3720

attggtaccg gctcattgcg ctaaccacaa atacgatgat caagcaagca tgcacagcta 3780

aaaatctgtc aaattaggct gaatacgttt gctagagaat aggctatact gtgtccgact 3840

tgtacctagc accatcttcc acatatagta cagttgtttg ctcagatgcc aacactcgtc 3900

tgcgcgggct tgtctctagc tggtccatac acgacagaga actggcacgc cgggaaaagt 3960

gtccggggtt gtatatcatc ctcgaacggt tcaaggagta ccaaagacac cagcagcaac 4020

acaaagtctc ccatcccctt gcatgctcca atagtcactg cccaccgtcg cagctccata 4080

gagcgcgtga cccgggtcat acttctcctt gacctgcaaa agcgtgtcgt agttagttcc 4140

aaaatagtcc gttttccaat ctgggttatc gaaggttgcc tcattcgtat atgcgccacc 4200

tcctgcgtcc cttgtaactt gtttgagaag atcctgattt gcgttcgtca gcgcctgacg 4260

acgcagaatg atgtctgtcg acgcccccgg ctcaaaataa gcatccatat tcagagtgta 4320

gagcgcatct cgccaggcag gaagcacggc atttgaggca cgtatattcc ggacccgggt 4380

atgcgtgata ttggccgcaa tcccgttgat acggatattc gggtgagaag ttatattgcg 4440

cagtgcggag actaattcgg ggagcttctc agcgaccgtc tgacggggta tcagtcggcc 4500

accgacggtc gagtttgtga ccgtgatgcc atagggtaag gcgggcgtgt agagtgcaaa 4560

gtggtcgtag aacgatgact gggtgtttgt ttcgtaggtg tagttcagcc ctaaatcatc 4620

cagggtctgg acgaagggtg ctaatactgc agagagagca gatgcaggac tatccaggag 4680

cgtagcggca actaggctga aagaggtgtt tgtgaagctg aatagagtgg tcaatttcgg 4740

tgtcttgtcg tggaccagga gttgggtgtg ccaggctgag atggctgtcc agtatgcctc 4800

catctctgcg tcggcgtctg tgtcggcctc gttgccgcca gcagagaatg agagcgaacg 4860

ccctgcgact actccatctt gatatgcctt tatcgtggcc gaaagaacga ccgcgtaagt 4920

cccccctcca cccccgctaa gcgcccaaaa gaggtcctcg tactcggaag gcgagacgac 4980

aagatgacgt ccacctgtag tgatgacttc atattccagc acattatcgg cggccagacc 5040

atatgcaccc tgtagcgcac cgtgcccgcc cccttggacg tacccaccga ccaccccgac 5100

agtcggatta aaagggccgg taactctaag accgtacctt gctgcgaact cgtagacctc 5160

gaagccttgg acacctgcgc ccagcctgag cgctggccct gaatagaccg gaccggtgtg 5220

gttgaccacc tgcatcccat tcagattatg catccacagt gccagggacc ctgcaccggt 5280

agaccgtcca agaaagtcat gacctgtgtt cttcacggac aaacgaatat tgtttctctg 5340

cgcgaaggct agcccggcga ctacatcctg cgcggaggag acgtttatcg cgtagggagc 5400

gatgtttccg agactgcatg gagagtctct ggacatgaac gggctgcagc tgttattttg 5460

ccagtataag gacatcacat tgacggggtc catgaagcta gaagcggtcg ttagcaggaa 5520

accagactgg agggcttgtt ccaaacatat gtggcgcgtt gaggcatcac ttactaggta 5580

ggcgggcttg cccatctctc ctgaagtgta ccgcatgtga tgttgttata ttcttccccg 5640

tggcatggac tagccagtga aatgcctcga attagacggc caccgaccga gtcgtttagt 5700

tgttgccact gttcggtact gggccattgg gggtcgtttg ggaggtaacg gcaggagcta 5760

ttgatcgtgg gacagcctgg tgctgcagca acgcctgaaa gcactgctag caagctacat 5820

gtagtaagca gatagtggcg tgacatgcta ttgggatgga agctgttgat gcacttatag 5880

aaacgctgag ctgtcggcgt ccacagcttt tttataaatc aaacggcctc tccaccgtac 5940

tcgcctcgac ctgctgctag aaattagatt cagcctcgca ataagaaaat attaattatg 6000

tcattgtcaa agatggcctt gcccaggtta ttatgcccat tatctcgtga gcattccgta 6060

ctcgggcccg cgggcgtcag ggccagagtc ctaatggttt tacttccagg tttactccgg 6120

ctcaattgca gaatatgact ggatagctat atttatttct taccttacta catatctacc 6180

aattgtactg gtacagtcat tatatgtatc acggtactcc tatctgtaag aagaacagaa 6240

cgtcatcgac ccagaaagag aagggttatc cgcgttctat tcgtgctgtt cttcaataaa 6300

ccagctg   6307

<210>   5813
<211>   5565
<212>   DNA
<213>   Aspergillus nidulans

<400>   5813

ctcactcact tggacgggaa tataccaacg agtgatgtct taacgaagac cgtgattgat   60

gctccagact ggttgaagtg gacaagcaaa ccttatcgtt caaaggggac cctccagcgg   120

atggaaagaa cagcaatgtg acaatatcag taaaggatat ttaccagaac gtggccaaac   180

ttgtcgtttc gttgcaatat tctgaattct ttcaggaagg attccgagac gaatgtgatg   240

ccatcattgg gcaatatttc tttttacat tcaatagcac cgctctcacc gatgaatctg   300

ctgagctgga tgtcgatcta gataaacagc tatcctggct tcattacaat cgtgacaaca   360

aaactctcta tggagaagtg ccatcggatc tcctcccaaa cacttacaaa gtgcggttga   420

cagcccataa agggaccgca gagggccaca aaacattgat gatcaacacc gtaactgagg   480

acgacttgaa tgaagatggt gcgtcctcag cggattctaa tggttaccat gcaggcaaag   540

ctggcattat agtgatggcg atcttcatac cacttggatg cacagggatt gctctgctcc   600

```
tgctctattg ccgccgccgc aggcaacgat ggaccaaaga tgaaggcgga ccagggtttg  660

aagagaaatc actcgcccca aaccctttg gtccgggatt gtcgcactgc cagccgtttg  720

agaagaccac accgggaaac ccaccagcca ttcgcacagc tccattgcct gaatcaaagc  780

ctgcgaaatt ggagctagag ccatggtgga acgttagcag cgagattaga aatggatatc  840

caccaacagc ctcaggtaca gaaaatactt tatggagctc gacgatcgat tgggacttcc  900

ttccactact gtgacctgga ggggatgaga acaaacctgc tgaagagcct gctggcaaga  960

ctcaccggct ctctttacag agtagccctc cggtgcgtag aggtacctca aatcgttccg 1020

gcagacgaga gccacttagg cagattcagc cacgaaggtc tacgaaacgc aactcggcag 1080

tatcgtccag atccaagagg tggtccaagc ggtcgagtgg tatctcttct atctctgcgg 1140

gtctcccagt aaggcttagc ggcgcaggcc acggagcggg tggttttggg cctccagggc 1200

atgggttcgt gaagcttccc tggcaaaata cgcagacatc cttgcaaagt gaggagagca 1260

gcctaggaaa tctagctccg ctgttccctc gccccctgc ccgcacgggg gacagtcaag 1320

accccacgaa gaggatgagt gtgcacacag tggaccgtga tagctcgaca ctttctgatt 1380

ccgattcgtt agaggcattt gttcaaggcc gcgcaagaag ccgtcactca tccaatccct 1440

tcattgctgg cccgataagc cgtcgagttt cttccaagac ccgtgccctg caacgagcac 1500

gaagcaatgc tagccgcgcg gatactgtca atacagccat ggacaatgat gactatcaac 1560

gtcgagagcg cccctggtcc ctggcaatgt caggttccgt gtatactgat gactaccgtc 1620

attccgcata tctcagctcc ttgtcggaag agtcaccgcg cacgcagcca ctaaatgctc 1680

taccaagtca atcaagcctt gcacaacact actctaagat catctcacca cttccccgtt 1740

acttcagcga gctgagtttg aacaatatca gacacgatga aactggagga gcatatgttc 1800

cggccgatca gcagaatctc tcaggtactc gtcgttggtc tcgatcaagc ccgtcgttac 1860

agaattggcg ccggtttcaa aaaagccctt cagcgtcgtc tttcccgtac gacgcgagaa 1920

ctcgccgcgt gagtttaatg caaacggctg accaagactc gaactctcag cgcggcttcc 1980

agagggaacc aacaggaagc gtgttgagcg atatagcctt cgtttagtac taaatggtct 2040

gttgtttctt atcaggttaa gataccattt cgttcggttt aggagagttt cagtgttcat 2100

attgtgtaac tagtataatt gcaaccaatt tttgagaaag aagtcatcga ttcagctgct 2160

caaacaccgt cttccataat cgggtggcca atgtggacga aagaaccccg tttcagctgg 2220
```

```
gcttttaggt ctcacccagg catcctaagc gacggcgatg attggctcag aaagttcctt 2280

ctcgaccgca ggatggtgtg attgacagat tttttcagac cagcactggt accggagtgg 2340

cttgacaggc tgcaatccag gctgcgcatc tcatttcaat gtatggtttc aatgtaatat 2400

ttatcagggc caaccctgct gaaggtcatg tggagtaagc agcgctaagc gtatccgtcg 2460

gactttcatc atcgcccggc agcacgcgac tggaaatttg cactcgggca tgctcttcat 2520

tcttagttgc gtgagatttc ttttcaggac gccgttgaca ctggactcga gattatctga 2580

tacgatatct aactcaattg tagaagggga ccttgcggca aatagtatct ctactgagta 2640

ctccgtacct atcctgtaat tatacctaca tttggctacc ttgtggcacc gaggttccaa 2700

cgccaggatg atatttggca tcaatgatcc gggaatttga ggacttactc ttcataaaaa 2760

cgatttaaaa aacaaggact ggggctggtg atatgatttc attaacagtt ccccacttga 2820

gcatcatccc ttgagaacgc tcttcaaaag agctggcctg gtctggttct cacttctggg 2880

actgtcccgc acgccgccta tcaattctgc cctcttgccc tcctctctcc cacctgattc 2940

ttgctccctc cctccccctc tcctcttgcc catatttctg tcattcaacc tcgtgcaggg 3000

tctctgtgaa tctggctctt cttccttttt tccaaaagtt aattgtcgcc tgttgaaatc 3060

atgggccaga ctctgtcaga gcctgttgtc gataaggtgg gtgaaaagcg actgaatcaa 3120

gttcgctacc ttgagacccc tctgtttccc attctcccca cactgcaagc cattccagac 3180

gcgattccaa atattacttc ccgtctcgct ttcgctgtcg aacttcccaa tatactgccg 3240

ttttgcatct cgcctttttt tttgcttacc ttggatcggg ccatcctgcg tgatcgtcat 3300

cattttgtgc ttttcccttc gctggagcgg ttccagattt gtgcctcatt tttgcgggga 3360

ctccattcaa gcaagacgaa aagctttcct ctctacgata caacacgctt ttttcccccc 3420

ttctattctc atttacagga aacccaatac gtggatctcc ttgcggcctt gctaacattg 3480

tttgattcgt ccagacttcc tcagaaggcc aagatgagtg ctgtatatat ggcgtctccg 3540

ccatgcaggg ctggcgcatc agcatggaag atgcccacgc tgccgttcta gatctccaag 3600

cgaaacaatc aggctctaac gaccaaccga ccgatcccga caggcgcctt gctttcttcg 3660

gagtatacga tggccacggt ggagacaaag ttgctctgtt cgcgggggag aatgtccata 3720

agattgtcgc gaagcaggag acctttttaa aaggcgatat tgaacaggcc ctgaaggatg 3780

gatttctcgc tactgatcgg gctatcctag aaggtttgtg aactgttatc ctgggagggt 3840
```

```
cttgcgctcg tctcgtgctt ccgggctcct gtctgaccca attagatcct aagtatgagg 3900

aggaagtttc cggctgcact gccgctgtca gtatcatctc gaagaaaaag atctgggtgg 3960

taagtttgct ctaggggata aggggaactt gggcggtaac acactccaca ggcaaatgct 4020

ggtgattcac gttccgtttt gggtgtcaag ggtcgtgcaa agcctctctc gtttgaccac 4080

aagccacaga atgaaggttt gtgattagtt tctattgata tgtcccatat tctgatgaat 4140

gggtgtatag gcgagaaggc tcgtatcagc gctgcgggcg gcttcgtcga ctttggccgg 4200

gttaatggca acctcgccct gtcgcgtgcc attggagatt ttgagtttaa gaagagccct 4260

gaactatcgc ctgaacagca gatcgttact gcctacccag acgttacagt ccacgagctc 4320

acggaggacg atgaattctt agtaatcgct tgcgatggtg ggtttcccct caactttgcc 4380

gctctgttcc acaatctgat atactacagg aatctgggat tgccagtctt cccaagccgt 4440

ggtcgaattc gttcacggcg gtatcgcggc caagcaggat ctctatcgga tttgtgaaaa 4500

catgatggac aactgtctcg cttccaacag tgagactggt ggagttggct gtgacaacat 4560

gacaatggtc attataggtc tcctcaatgg aaaaactaag gaagagtggt acaaccagat 4620

cgcggagcgg gttgctaacg gcgacggccc ttgtgctccg cccgaatacg gcaagtctct 4680

cgaggaaccc acggcctcca atccctactg actgaaccgt gggggttgca gctgaattcc 4740

gaggacctgg aatccataac cattttgaag agaacccgga cgagtacgag atcgaccacg 4800

atcgctcccg cccattcaac gtgcgttctg gtagaataat tcttttggga gatggcagca 4860

cgttaattcc aggaaaacag aatgacgagg aactctttga ccaaaccggg gaggagaatc 4920

acccagacca agtgcaacgc cagaataccg acacagaaag aaatgaccgt gaagggacgc 4980

ctgggcctca atccgcggct caccagacga acacgtccgc ttcggatggc tcagagcctt 5040

ctaacacacc gcagaaaccc gcctcttcgt agcttcgtca tgagatttac gcctgattcc 5100

cttcattttg gttcctgaaa cgactcgtga tttcacgatc cacacccgcc gccccatctc 5160

cacgcccggt gccgaagcct cacaattctg cccccatacg gtcgctcatt gattttctgt 5220

ttctcacgat ttgaaggcgc attggtgctt gtgaccgcga agatgcgaaa gagacggacc 5280

atatcatccc cttctatctc ttgttttaat cccatcttct tacttttac gagctcatcc 5340

agatcaaatc accttcgtgt tactccagga tggatatctt tgagaattcg ccgaatgggt 5400

ggaggcatct tctttccctg tcatctttct tctctatgtt tgcacatgcc gcaagcggca 5460
```

ggcctcacga gagtacgttt gtttcatgtc tcgacataag ataccgcaac aaccactatt 5520

gacgaacttt ataacttcca tgattccatt cacgtttgac atttt   5565

<210>   5814
<211>   8077
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations
<400>   5814

tattggcttg tcggtcagta tgccactgac ctgtcgtccc tttttaccac tgtggcatcc   60

ttcgtggatt tgaagctctg ggtcagactg tggcatgggc gtaagttgcc tccatcaacc 120

agagaatata cggacgagag tcgctaacct gaccaggatg caatccgaag gtaatgccaa 180

ccactttgtg agcatcggtc tcaattttgg aattaccctc cttagtgtta tccccacatg 240

gattgtgata tcggagctcg aacacagcca tgaggtccaa gtcgttgttg aagataccaa 300

aaccgctgga gaacctgaga ggaccgtctg atgttaaaat atatcggact accgcaccta 360

tccgttgttg acgtgtgatt atgtgtatgg ttcgctactg tcgtccatgc cattgtatct 420

agattataga atatacccca ataccgactg ttaccgcctg ctgttcatgt accgtagggc 480

tcaagacata ccggctggcc catagaatgt tacttctgca ttcctatgct cctagctgac 540

cgtcttgagg cttaagtctg ctgtcattca ggactggctt cgtcacgtga tctgagatct 600

ttggcgtgga cgtcgacttt gcaggatgaa cctaccagct ttccagacaa gtccaaagtc 660

cgacctccaa cgttcagtat gccaccaccc aagacaaagg tcgcctgcaa gtcgtgtcac 720

tcgcgccgag tacgctgtga tcgaacgcag gagacgccct gctttcgctg tcgctccact 780

ggacaggagt gcgagccgat tgtgtcgaaa cgcggaaagt acgtctgatt gtgcttatta 840

tgcttaatga atacgtaaat tgacagcata gacataagcg cgaactcttg aggcgctccg 900

ggttcaggca ttcatttggc ccggtgcctg gtgcttcaga gtcaggcaca gatgtgactt 960

ccttgtcgac tccagcgacg tttgcgagcg agaggagtgc gcgagaatct atcgccacgt 1020

atacctcacg cgccaatacc actgaatata agagcggtcg caccatctac tatggcgact 1080

acttcaacct cgagtacaca cgcagggagc tcgatgagag ccacgaagac tataaccctc 1140

gcatgagcaa cacccgcctt gcacacgttg accggctggg atcgcctacg aggcggtttg 1200

ttgacgacta tttctgcagg gagcgtgcgc gtctagatga actaggcgca tttgacacgc 1260

11991

```
ttaacaggaa tactagggat aaactcctct gtactttttt tgagatgata aatccggtgg 1320

tccccattat tgaccgtaag gacttcctca gcaaactaga aacaggccat gtttcacagc 1380

tcctgctgca agccatgtat atggtctcat tcttacacag cgatccgtca attatagcgg 1440

acgccgggtt cggtaacagg tatatggctg catttacatg ctaccaccgg gcaaaggcgc 1500

tttacgatgc aggatatgag acagatgccg ttgcggtgat ccaggcgctt ctatgtctgt 1560

ccttttggtg ggagactcca acgcaacaaa aggacatgtg gtattggacc gggataagtg 1620

tgaaccttgc gcagtcttta ggaatgcatc aagagtaata aagctgccct tcgccgcctg 1680

tacttgctaa caaatctagg tatacatact tgtccttgga ccagaggaag agcaaactat 1740

ggaggcggct gtggtggact atatatgtga gctcttcctc aacggattgg ttattaacta 1800

acagaacacc agggtcatga catctccact gcagtgcagc taggacgtat cccacatgtg 1860

aacgacgcgt attgcacgac aagattagtg acagaacagg attttgatga tgatgatgat 1920

aatgatgacc ctcctgatag gttcggtgga aacgcgacaa aagagactcg gctggaatcc 1980

gtctatctgg cggacctttg tctacggggt atgtctctcc tgaatttgct agcctagagc 2040

agggtactaa tcttaacaag tgagcggctg ttatcgatcg ctatataccg ggaactcaga 2100

cccatcaaca gcgttaggga acatgaaagc tttagcggag tggaagacct cgttgccatt 2160

agagctgcag tgtcgaacaa cccttacact acataatgga ctattcgccg cattgctcaa 2220

cctgacgtat ttgtacgagt gccctcttgt aacttgtttt gggtatccta atgtggtgca 2280

gttgctttga gattatcctg cgccgcaatc attttcggaa ccccgagatg atgacaccgg 2340

ggactcccgt attcgaggca gcggtcgaga ttgtcagggt actggaaaat attctaacag 2400

cagagctcat aaccgcttgc cctttacgac tgtaagcagg gtccgttgcc tccaatgacc 2460

gctgactgat ctttgtaggc taccgccaac atttgcagca ttgtctgtac tcattttgaa 2520

tatgcgtctc cctgcgcgcg aggtaaatga agtttcaaag catcgagcac gactatgcat 2580

gctggtccta agtaagctgg tcgaccactg gccacctgga cttttatatt atcggctatt 2640

tgcacgaatc ctcgccgctc ggggctgtga agttccggat gaacctccgc caccagccgg 2700

catcaatgag caaccgaccg agttttgtcc tccagtggtg gaagggcact acagcttccc 2760

aacgacgagc gactttctga taagcaacac tatggctggc gaagaannct aatcggagtg 2820

aactcgctct tcccgttttc agcctttctt aatgaggagt ttatcgagaa cgatctaaat 2880
```

```
ccaatgcgct ctgccaacaa tgactctctc cagccatgaa gaatatgacg aggcggcttg 2940

atacacacaa cgcttcccgt actactggtc cgcttcattt ccgataccac atcctcgtca 3000

ctggtgtcct tctaatcttc ctctgcagcg tgaaaatacc ttgcagcaac gcctccggca 3060

tcggagggca cccgggaaca tagacatcca ccggcacgat ccggtcgact cccctcacaa 3120

cactatagct atagtgatag taccctccgc catttgcaca gctgcccata cttataaccc 3180

atcgaggctc tggcatctgg tcgtacagct gtcgcaaggc aggtgccatc ttatttgtta 3240

aggttccggc aacgatcata acgtccgctt gtcgaggaga ggcacgaaag atgattccca 3300

gtcggtcctg gtcgtaccga ggcatggagg tgtgcatcat ttcgacaccg cagcaggcga 3360

gagcaaaaga caagggccag aaggagccat tgcgagccca ggagataagg gcatcggtct 3420

ttgtcctgtg atgagtcacc atacttgtta gtcacagatg ttttggatag tgagtcaagc 3480

tggagctatt acagaacata gtcgagctta ttgctctttt caactttggt ttgggtgctt 3540

gttagcgtag tcgctgtgtt tttctgccag ttcgtggctt gtcggacctg tatcgatata 3600

taaggaagtg ccgcttgtcg gttaacttgc gtagaagccg tggtaagggt gagccccggc 3660

gagcgaagaa gtttcattct gctcttttga tcgtacttgc gaagtagctc gagttcttga 3720

agtgcaaatt agaaggaaaa cgatgaatac ctcagaagaa aacaacccat ggggtatact 3780

taaacagctg agtcggcgat atgaatggct tggcgttaca ggtgcaggtc ggcgatatac 3840

tttttcctct ttcggacaac catgtacaat ctctgctagg ctactcgcta ttgctgccca 3900

ccataggaaa gctccaacaa agcagtaatt atcagacgga gctatactca aagcgaaact 3960

tacggttcag cagttgaacc gaatggcata cgcatttgtc aacaccattt caggggacct 4020

ttgcaattgc ttagttgtcc cctataatac tctagcagtg ttcagcgaaa ctcccttcta 4080

aggtcacgag ctcgcatctg attcgacaca tgagcaataa ctgtataaaa aacagtaaaa 4140

ccatgataaa tattatctca tccacttaaa tctatctagc aagttctatt gctgacctcc 4200

ggcaatctca agggcaatac ggttcattga cgagactggc ttattacctt gaagatataa 4260

gccaccccgt ggagagaagc aattgttcga accataagtc gggagacgca ctcgggccta 4320

cccactggag gttgagcaaa tcactgtatg cagatattga acagtgagca tgcacctgtc 4380

gcagcctaat acctacaggc ttagcagtat caatgcacat gttttcatca ttacagctct 4440

tctgtcgact caaggaaaag ccactcaagg ttccagggca gatagagttc cctcgcacgg 4500
```

11993

atgtagtaaa gtgcaggaaa atcagtctct gatgctacgg ctgatgtaag aaaccattgg 4560

gccgacagat agttgttgtt actgtgcgat gtacgctcca gactccaggc tggcggcgtg 4620

ttgatggata agccttctgg agttgctggg actatattgt attagatata ttctattcaa 4680

tgtacatagt taagcactta ccggaaccgt tctagggcgg ccccgacaag aagtacgctg 4740

atgttcgttt ctgggtgcct tttaggcaac tccttcggat tgcacgtcca cttctcaggg 4800

tcaaactcgt gcggatcgcc cacgacaatg aattgatgtt gtagcgtttc tcccatttgc 4860

cactgagctg gagttcaata ccagtgtttg gacaaggtca gccgggatcc taaactcaga 4920

ttctctacga tgggaggagt cggttaaggt cttagactgt tgtgattaaa tacattgctt 4980

gccgtaatat cggtgctgaa caatgggtcg gtcaaagcgc atcattgtta atttgcccat 5040

attcatggag gatttgtccg gctccaccat cggctgaaat cggttgtcgg tacattccac 5100

atctgcccta ggctgccagc tctagagtgc ttcttgcgtt tatgcacact ggttagcgtt 5160

atgttatatt gcgagacata atcgaagccg ccaggtcgtt gctcagcgac tgggagaaac 5220

tacaatactt cactaaggac aacagttgct gagagtcacc ttccagagga gcaaccagtg 5280

atctcactaa tatatcaatg gttcatggat gcattgactt taccaagatc ctgagacact 5340

gaatatatat atagagagcc aggagagtgc attcaaagct cgtaattttc gtagcatgaa 5400

cgatcgattg agtcttgagt aaaaccagaa atctcgtaga ttcatcgaaa ttaaatcatg 5460

tccgtttaag ttcactttga gataaatgag atcttcgctc tcataggggt tagggcttat 5520

accccgccgg ccggctggac aagtctattc attgatattt gttccatccc ccactccacc 5580

ctctgaacga tgaacatcaa gtcaaggcaa ccaaatcaaa agcggtccca aaatcaacaa 5640

gataactgta ttccgaatct gaatgctctt attcgttcca tgcggatgct ccatcaacac 5700

cttagcatcg gcgatccccg cccatgacca acaaatcagg aagatgccta acatcttctt 5760

cttgcgtaat aggatcatgc cccagacaaa aaagccggcg cccaggttac gacctgtcgc 5820

gctagggaac aggatgaggt tctctggcgt tgcggacggg aggccgaagc cttttgcctc 5880

cgatgtaacg gattattgct tcggtgagga gagaccatca actgggacgg ggtggaaagg 5940

gacgtacaac ctagagggtt aataaaggtc cctatactcc agagtagaga agaagggagc 6000

cgatagtact tgtggccgta tcgaggaaat acgagagatt tgacatggta tggagggtta 6060

gctgaaagca agaacagagc cgatcaggga ttacttgtat gctatcagga tcgggcttcg 6120

```
ggggggattcg attacggcat cgggatttct atgtccagtc atacaacgct gcattctgcc 6180

gttgattgtt agactgcgaa gtaaagccgg ccacttgtct gtcatcaatg ttggccagtc 6240

tgaaattatc agtgacggcc cttatcctgg cccactttat gatacctagg tttgaagctg 6300

ggaggtcata tctggaggta aagaaacaaa acatatcagt ccatttggtt caactcgaaa 6360

ctaacagtta ttgtctactt cctaataact attctaggct cgtccactgc atccacctat 6420

tattctcgcg tttttctcga cctctcgctc agtcaagagg ccttatcagc ggcctcctta 6480

tcctcagcct tcttggcttc atgatctggc aatttcttga acggaactat caaggccagg 6540

acgacggtga ggcaggcccc gccagagcga aggcgaagac atccttgatg ccgaccatgt 6600

atgcctgtcg aatcaaggca aggtctttcc cgtggaaggc attcttcagg tcggtcacgc 6660

ccatatacaa aatctcaaag gagctgatac gcggagctgt gacagagaga gtcttcagca 6720

tgtagttatt gaagatggaa tttccggctg atacaaaata ggcgccactg atggattggc 6780

acactggaaa cactgttagc agcaatcatg gcagtcgact ccggacgact cactaaaggc 6840

gacgcccatc gtggcggcca cagtttctgg agtcgcaaag ccctgtagcg ccgtcacagg 6900

cacctggttt cccagcccag ttcccaggcc agacgggacc tgcgcgccga tccaccaggc 6960

tttgggagtt ccgacgtcaa tgcagtagat cagagcggcg cccagcacgg cgatcagccc 7020

cctgacttgc tcaataggct gtagtagatg ggttttcccg acgagaatgg cgctaataat 7080

ggcaccaagg gtgtagaagg ccatgaacgg caaactatag acaccactca tgatggcggg 7140

cgagccatgc atggactgga aatagatggg caggtaaaac aggatctgga agttgcccag 7200

gttggcactg caacagtcag ctaggtggac ggatctctct tctgaaaggg aagtacgact 7260

tacatccacg cgtagaggag atgcgaccag aatgggcgcg gcttcagcat gcgcagtggc 7320

attatggcat actctccctg gaaccactcg atggccacaa atgcaatgga caaggccacc 7380

cacaaggcca acgtggcgat gacagcaccg tcactccatt gcttcgctag actccccact 7440

ccatagccaa tagaagcaaa taacggagca aaacagcacg gttcacccgc tgaggtcgag 7500

atggcggaga atctctgtcc atgttgctga ggtgggcttg atgtgcttag gcatgcggag 7560

gaagagaaat tgcagaacaa tagctgtgcc gccaacggga aggttgaccc agaaacacca 7620

gcgccagctg acctcgctgg tgaacacacc atcaagcaac ggtccaatcg tggtagcgat 7680

cataaaaacg cccatccaca gcccaataag cattggacgg aatttggggt ctgccgtgaa 7740
```

11995

gttgatgatc agtacggagc cccccagcgt cccgcacagc cccagccctg taggcacgcc 7800

caacgatcaa agcaatgctg tttggtgcag cagccgcggc cacactcccc accgaataaa 7860

agccaagcgc catcatgtag gtgtatgtgg ccgagaaaaa tctgtacatt tttccccatg 7920

gggcagaggt ggtgccgacg agcaggaagc aggccccgct gtaccaccca atatggtcga 7980

gagcgtggaa gtcgctcgtt attttttgga atcgctgtag cgacgatacc ctgtggctcc 8040

tagttagttt gatcctaggt aaggcgcaac gctacca   8077

<210>   5815
<211>   5458
<212>   DNA
<213>   Aspergillus nidulans

<400>   5815

tattctgctt ggccggagtg agcggtgacc aggtgacgac tgaattcagc cagcgacaac   60

acagcacagt tcttcaaccg ttgcaaatcg agatctttga ttcatcccgc ttcttcccct 120

cctctggcac attctacagg cactgtgccg agtgatatac ctctaaccac gaaattcata 180

ttttcctatg cgacaaggtt ccattcagct tcgaattcgt cattgattga gccttgttgc 240

ctcattgccg ctgagaccgg gattccgacg ggccttcatt cccccacgtt caactcgact 300

aaagcatcgc ccgaacctaa ataagggatt ttttttaccc gtttcccctt ttcttttgaa 360

cgctgccgtt attttgttta gcgaataaaa aacggcgagg tatttgttca aaaaacggga 420

ttgttaaggt aagcactttg ttgcgtccga ctggacctta cacacgtgcg atgatacctt 480

ctgaatgaga tgggaggcct cgctggatt cagacggcgg tagttggctt ttcttgaagc 540

ctttctcttat gttgaacaac tcgtttgatc gaactccgat attgaatggt gcgttaatca 600

taggcattgc aggttccgtt tagcctcgtc gctggtaccg agcactaccg gctcaacacc 660

cctgcatgtg ctccttctct cttcttgcca cattaagtta ggaagctcag gtcttgtggg 720

gagctcttcg atatggcgcc agagatgcgg aaagaagtgt tagatgtcga gaatggtgtc 780

acgaatcaga gtaagcctca tttgatttcc aattttggat tgtttggata agacagaata 840

acctggtgtg ggatttgtag cacctgcaga cgattcccaa acgtccgata acgatggtgg 900

tgagcgtcct gtacgaaaca agttaaagaa gactaccatt acttcggccc caaaccagcg 960

cgatgattct agcagggcga gcagccgggg caggaagcgg tcatataata gcgacgagga 1020

11996

gaatcccgag gacgattctg gtcataggcg gaagcggtcg cgggactcga atacggagga 1080

aatggcagac gcagcgccag cggaactcct cactcctgta tgtcttcgtc ctcacgcgta 1140

gcaggaacac tgccaaactc gagagcgagg agcgagatgc tgctgccctc atcaagcacg 1200

atgagacaag agcagccatt gtcgttgagc ttggcgcgaa gattgacgag aagctgggtg 1260

aagtaatgac caagtatgat gaggctcggt cttcgattga caccaagttc gccgaagctg 1320

ctgagcgcgg aaatgcgcac cttgaggcag tgaccgacac aaagtccttg gcagaggata 1380

ttaaacttgt cattggatct atgggtgaca gtgtcaacga agcatgcgag cggatgagcg 1440

cagatcaaaa cattcttcga aaaggtcgac atctcgtaca gcaagatgga ggagatgcat 1500

tatgaggtaa aaacacagca agagttggtc tcggtccgat gttgaacgga cagccagctg 1560

ctacggagcg agtcgagtct aagctgcacg agttccatcc ccaggttttg gagtctatcc 1620

aggagatcct ttctattgtg gggcagcatt acacccacgc acagcaggct acacaagatc 1680

tcagaatgga tctatccgtc ataccgacca ctatgacaaa gatgctgccc gctttgccac 1740

ctcccgagcc ggaaaagtat gatgacagcc aggtccatga gaagctagac agcctcatcg 1800

agcgttcaat ggacaaccag gtccaggaga gcctcaacac attgattgaa cgggttacca 1860

aggaccaggt gcacgaaaag ctcgaccagc tcttgagcaa gacgacaagc actaatggag 1920

aaatttacga aaagctgaat gaactgcttg agcatgcaac gaactccaat gggcccatcc 1980

atgaaaaact cgacacgctc attggccacg ccacgaacac tgatcagtct gtccatcaaa 2040

tgatgaagct tgatgagatg cacaaggata ttatggaaac gtcgcggaag atgaacgaga 2100

tgatggcggc ccaatcagct cttatcgccg aggatactga gcgcaggcgc aaggaggctg 2160

aggaagccgc cattgtcctg gagcgcagaa ctgcacagcg agagcagatt gaagcagaga 2220

tcctcaacct caaagatgaa aaagactcaa tgctcgcaat gatgcagagg ctcaaggctg 2280

aaaaagatga gcttgttgcc cagaacgcca agctccacaa agaagtctct gccctggaga 2340

cggccctcga actgcggcat gaagagatgc aggtcatgga agagcgcgcc gacagcttag 2400

agaaacgcat tctagagggt gtgcttgatc atgctcgtac tgttcttctt agtcgcccca 2460

acagcacaca cgggttaaat atgaaaaaag tacgcagcgc acgcggccgc aatgtcagtg 2520

tttcgagtac tgcaagcacc gccaaggaca ccgcagcgt cctcggtagt agtctcgggc 2580

tggcattgaa gaagcgagct ccacctgcgt tgcaggcagg gtctgctact gcgtctacag 2640

```
cgagcaagga gaggaggatc ttaagtctca gccacgttac gggaaaccgt gggttatcgg 2700

acaggcagtc aggtgcatcc ggcggtctta cgagcctgaa aagaagtcag tctgttaagt 2760

ccaactatac ttaccgcaaa cattcatggg gcgggaggag ctctatagcc aacaaggaga 2820

atgaaggttt ccctgaggtc ttccccgaag aagacgagaa ccagagcgga gatgagagtg 2880

atacaggtac ggagcggagg acgagctaca ccggaactta tgcggaaagc atgacatatg 2940

gccctggaag tgtcatctcc acgaaccggc aggttagtac cgccagtact agaaaccttg 3000

agtctgttgc ggatgtggcg gaagaagagg aagaccgagc aatggcgaaa gacgaacacg 3060

aggaaccgga caaggacgat gaggctcaga gctctaaagc agatgagcct gaggatcatg 3120

cggccgttcc tcaagaagca ctcgacgaag aaacgtcgaa aatggtgctg tacggacacc 3180

ccgccgacag cggactgggt tcggagatca cgagtacagc aggctgatca tacggaaccc 3240

gcaagcggct tcaactcgac ttttattgat agttaagcgc tactattctg gtggtggctt 3300

gggtccacct cccaggaggt aatgataccg tggcctttct tttgtacttt cctttgtcat 3360

atacttacga ttggctaccc gcccacttcg agcaagagag tctgggctgg gatcatggat 3420

gcatgtggta ttgattattg gctagatgta actgaatgat atcctccttt tactgaaagt 3480

tgttcgttct tagtagatct attgtggtac ttgtaggtgg aaagagctgc ttgcccgatg 3540

aggaagtgcc gaggctaagc cttgcgggtg gggactgggg actgccccaa cgatctttaa 3600

cctagcaaat caggcaccaa actggcaccg aactggcacg cggtcagctt ttgttgaatc 3660

actctgggtg tcgtctgctt ggtctgctcg gcctgattcc gtcataagat ggactctcct 3720

ctgtcttcgc atcccctgaa cactctcagt gagcgtgata actcgaagta ctactgagtt 3780

ggcggctcgt tttctccact ggtatttatt cgagaaatat cccaggcccc gtcagccctg 3840

tcaataatac ctgagctaac atcttgtccc ctcgcaggca tcaccgttct taccaagatg 3900

gccaggctct aggcttctcg cacgcttcca aaccccgctc tgttcttctc tttagcgcct 3960

atcgtcatag ttcccgagtc agccttatat cggccttttc cccgacttcc ctctcctaat 4020

aaatactgtc ccatttcttc tatcctcaga cggcataccc taagtatcta gtccgtggca 4080

cgcgagcatg ctggacccaa tcccgcctcc tccagagtgg ttgcgggagt acactgagcc 4140

ctgggctcaa cgtttcaatc ttcctgctct gactgatcac tctcatgaag tcattgctgc 4200

ctttatcggc tacctattca ttcactacgt cctctcgcca tggctgtctc cgaagctatt 4260
```

11998

ccctcgccac taccccaacc taaacaagcg taccaagctt aattgggatg ttcatgtcgt 4320

ctcgcttgtc cagagctcct tcattaacgc tgtcgctctt tgggtgcttt tcgccgacga 4380

ggagagaaaa tccatgacaa ttggtgagcg agttttcggg tacactgggt cttgtgctct 4440

aataaactct ctcgccgtcg gctattttat ctatgatttg ataatcagca ctctctacgt 4500

caagatgttt ggtattggca tgctcttcca tgccgtctct gcgctatggg tgttcagttt 4560

cggattcgta agtggctcca ttaccgcgag cggggactat cactgataat agtgcagaga 4620

ccgtttgtca acttttacgc ccccgtcttt atcctctacg aactctccag cccctttctc 4680

aatatccact ggttccttga caaagttaac atgaccggct ctaagttgca atggtacaat 4740

ggcatggcgc ttcttgtcgt gttcttctgt tgtcgtctca tctggggaac ttggcagtcc 4800

gtcctcgtat acatggacat gtttgctgct ctcagacaga cttggtccgc tggctcttcc 4860

tcgccgctag accccgttaa catcacggct caaatcttcc agacccgcga cgatggctca 4920

ctctgtatca acgaagcctg cattaaggcg aatcgcatat aaccaaatac tccaagcaca 4980

cggccgtcgg cgttcctacc tggttggtcg ccacgtacgt cacctccaac ctaatcctca 5040

acagcctcaa ctactactgg ttctcaaaga tgattgaaac tgtgatgaag cgcttccgtc 5100

ctcagaaaga gcaatccaag gtggcagaga aacttaagga gcataacaag gaagctagcg 5160

cggtggagga gcttgcgcag caggctgttc tcgacgccgc atccaaactg gaacaagaag 5220

agggaagttt attcctaggg gataacgaac agccagttgc ctcgggcgtg gacgcagtac 5280

ttcagatctt cggaacagga aagcctaaac acatccagag tctaaaggtg gattactata 5340

gtggactggc ccaagagaaa gacggtgatg tagaaggcta gaggggcgt tggcggcgct 5400

gttctcacgt gtcctggttg cacttcataa gaagtcctta tatccttatt cgttattg 5458

<210>   5816
<211>   2877
<212>   DNA
<213>   Aspergillus nidulans

<400>   5816

gtccggggtt ccggctaatc tttgaatttt ccgaaaatga attttttcacc aacaagacga   60

tttccaagac atacttctat aaggaagaga atgggtatgg gggcgatttt atctacgacc   120

atgccgaagg caccaagatt gattggaagc ctgaaaaaga cctcaccgtg cgtgtggaga   180

```
gcaagaagca gagaaacaag agtatgcctc tgtccatgga tgtatatcta acgttagcta  240

accataacag acacgaaaca gacccgtgtt gttaagatta ctgtgccaac agaatccttc  300

ttcaacttct ttgctcctcc tcaacctccg gcagatgatg atgataccgt tgcgacggat  360

atcgaggaac gtttagagct cgactaccag cttggagaag atattaaaga aaaacttata  420

ccccgagcca tcgattggtt caccggtgag ctcttcaat tcgaggaact tggtgatgat  480

atggaccccg atgagtttga cgagtttgac gacgaggacg acgaggacga cgatgaggat  540

gaggatggca gagggtcgga ccaagacgtc gatgactccg atgaagaggt ttgtgtttac  600

ccgtacacct agtcttatag cacttgttct gagcaactaa cgttcggtag gacggtactt  660

ccaagccgaa gaaagaagcg gctgagtgca agcaaagtta actggtgtaa cacgacgcta  720

aagaggccaa tgacacagca gttgtgctag cttgttttcc gttccagttt tcatcttctc  780

ttgctctcca atttgttctt attttctttt actcccattt ttttgcatta actagcaaga  840

ctatctaatg accctccgat gacaagttaa gtatgtgtga aacctacagg atctcttaat  900

tcgagatagc gggccaaggt cattcttcac ttatgtcgct ttgacagatt actccacttt  960

acgcttcgtt cgcccttccc cccgcgcgtt ttctcctata tttaatgttg agtcaatagt 1020

ggcgcgagga gtaggtacac tttcatctaa tttgttcttc aatatgtgtg ctgtcaacac 1080

aaatgtataa aaaatgcata atgaatggat ttcaacggtc atgaacttgg tcgatgagtc 1140

tactctaata atatgcgttg gcaagcgagc ccacctgtgt agtttacagt ctaggactct 1200

acaccgtatc ccgagatcgg gttcgcttcg aatccaacgg tggcaaaact tcgaagggtt 1260

tatcattaac tcacgcatgg tgttttctat tttgtgacca acaaactcta ggcattcgat 1320

caattttacc caatgctatc tatccaggac tacggagtat cgttcagtaa aacagtcctc 1380

caaaaataga ggttggtatt gcagacaaag tctctcttgg cgtgggtaat tgagtggaga 1440

acggctcagc cagtggcgcg accccgagg ctcctcaggg ctgcgttgg agcagccagt 1500

tggtcattca tctcggaatt tctctgcttc agtgaagcat gggagctctt ttctcagaat 1560

cagcaacttc ttactagtgc cctggaaggc aactctttct ttcttttctc cagttttttt 1620

tggaggttga gtttctgctt tttcctttgt tacttttta aatgcctttg acttgagcaa 1680

cgaacatctt accctgtgat atttctcccc ggacccgcag cggttttcgt gttcacgatg 1740

gcgcataatt atgaggtcgg gacgagggcc tggcaacctg atgctactga gggttgggta 1800
```

12000

gcctccgagg tcaaggagaa gctggttgat ggtgacaaag ttcggcttgt ttttgtcctg 1860

gagaatggcg aggttcgttc atattgaagt tagtatgaag caatactaac ctcaaaagcc 1920

caaagagata gagaccacac aagccgaatt gcaagtggat aacaatccga acctgccacc 1980

gttgatgaac cctgctatgc tcgaagctag tgaggacctt acaaacctat ctcatctcaa 2040

cgaaccagcg ggtactacgt cttctcgagc acctactgaa gcttaactaa cccgtcgcag 2100

ttctacaagc catcaagtta cgctatgcac agaaagagat atatacatat agcggtatcg 2160

ttcttatcgc aaccaccct ttcgctcgcg tggattcgct gtatgtacct caaatggtcc 2220

aggtttacgc tggaaagcac cgcgcatggc aggcaccaca tttgttcgct atcgcagaag 2280

aagcatttgg gtaagttctg tcagtacttt cgacggtgaa gtattactca ttgttggtac 2340

gatacaggga catgctacgg gatgggaaga atcaaacgat cgttgttagc ggcgaatgtg 2400

gcgctggtta aacagtgagc gcgaaatata tcactgcgta tttcgcgaca cgcgagtgtt 2460

gcgaccagcc cttgaagtat accacgagaa gagccgatgc aatcagcgaa tcggaagaac 2520

agatgctagc cacaaacacc gtgatggaag ccctttgcag tgcgaaacta cgcgtaatgg 2580

caacgtctcc cggcttcgga aggacattgt agtaatgttc ggcggcaaga accacattgt 2640

ggtgccaaat accgcctacc ttcttagaga tcccgctagt tttaagccct caagggggaa 2700

ttatacatat ttttcacttg tgtagggttg ggaccaaaac aaggaatggc caaacttgga 2760

gggtggccct ctattggggg acccttttgg ggggggtcaaa gccattttcc ccagagtttg 2820

gaagggcctt gacacaggaa ttggtcagtg gtggctggaa aaaataaaa aaaagga 2877

<210>   5817
<211>   7321
<212>   DNA
<213>   Aspergillus nidulans

<400>   5817

ggagctgtat caagcctgtc cagatactgt cggggtgatc ttctaccccc taatcttaat   60

aaggcttgta aatcaagatt atctgtaccc tctaaggtat tagggagatt tatagtctct   120

ctacttgcct gattctaatc ttcttagagt aattcaagga gatgtcagct tagtaagtcc   180

tctctttctt attctgcaga ttctgactat tcttctgctt ctataaaggt tcctggcatc   240

taatttaagc tagaattgcc tgagtttggt attctatcag gtataggtaa tagcagaggc   300

12001

```
aaagatagta tagttttct ggcagaatac ctatatttct ctatatcttc cttgcatagt  360

tcctcaacac cagcttctcc tatcttagtc aatttttgt tatttctaat gctctgctta  420

ttgggagatt ctgcttgtat tatactaggt attatatatt tagagagctt aatatctata  480

ttaattgctt ccctgttggc cctgccaggt aatatctata tctctactgg tagtataggt  540

aagctaatac ttaacttgtc ctctataaaa ggatctaata gattgtatag ccttgtttta  600

ttaaacttaa tatctcttgc tgtctcaact cactgcttct ttaggttcta tataaactat  660

atattagagg ctatatagcc tactagaata ccttggtaag ctcttagatg ttatgggtcc  720

tttgcctata caaggacctt agaccttagt gactcggcca aggcctgcgc tgtcctgaag  780

gcggtgagcc acctacaaga cttccttgca acaacaatcc ttctttctca tttcttcttt  840

agcgattcct tcttgtacgt acggcacgtc tagataggaa gatccatcta aatacgtccc  900

ttaacattag agctattttt ataccttttt cttactgctg atatgtataa gatatacaac  960

taattaggta gaaattagct agatttagct tctttcctat gagtatctct tatagtattt 1020

tctattttat agctcttgta ggtgttctgt aataatatt tacaactaaa gcaataatcc 1080

agggctaaag gtcttgcagt aagcaggcac ctattagaac ctgccttgcc tttgtaataa 1140

gaagatatct taattattct gcagctttat tctgatttag tattgtaatt actaagtact 1200

agtaagcaat gccttctgct gctttaaata ttgtaatctg ataccctagt attttctcat 1260

tattactttt cagatatttg atagtaaggc caaaaagatt cttcatctgg tttataaatt 1320

tctgtacagc gttgacatat ttgctcttct attagtaggt aaagatgaaa tgtattcttg 1380

tggctttatt atagaaatag gtgatctatt tatccctgtt cagaccaggt tgtattttga 1440

taaggttgaa gtatacttgc tctagcagag cagtagtagt tattattagt ctctgagaga 1500

tttgctgagg tgtatttgcc aacttgcaat cttcacatgg ttgcttagaa tcatggttta 1560

catccagatt attaatcttg atgcctgtaa ctgcttcagg aagatgctgc agagtattaa 1620

tataagtata agctattctt tgatgccaaa tatctatatt tccttttaga agtagtggtt 1680

ttgctgattg tcaattgtcc atagttgcaa aagtatatgc attgttgctt tgttgctcca 1740

caacccagag acctgatagg taatctccaa tcttgaagac aatattattt tctttcttaa 1800

taatattatt gtcaaaatcc tagctatatc tggcttgttt aagtcttcta gctccaataa 1860

tgctggtata aagacctagc acataggcta tattagtcaa ggtaataata atatttcctg 1920
```

12002

```
attctctact ataatttaga cagatcttga cactcctagt gccttgtatc cttattattg 1980

gattactagt ataaagaatt ctggttgctg atggatcata gttttcaaac cttgagatat 2040

tattgcaaac atgtattaaa gctctagagt ctaggataaa gcaattcttt aataagctgc 2100

taatttctgc actaaaaaca agtattataa tataatactt ctctggtttg ttgctttctt 2160

tctgcttatt gcccttattt tgttgcttat tatttactat taaggttttg atctttcttc 2220

taatcttatt atcttttgta atggctttgc taatcttgct tttaatctct ttgttaggtt 2280

tctattattt tggttgtttt aagtatatta tataccagca actgctgtat atatagttct 2340

ttttatatat atataagctc cagtatctgt ttttgttggg tttgctttgg ctataaagta 2400

ttgcaaatac tattccagaa gttgttgtct tgaagccttt agtattagcc aggtaagtct 2460

gatattgtcc taggagtata taaaagttct ccgtcttata aacaggatg tttattatct 2520

ctacctgtct atctgcaaag gaataggaaa ctagtaatat agctgccaga aactgttatt 2580

ttatatactt attattactt ctaggagat tgcagtgttt aattgccaag taagtattat 2640

caaacttgtt gagccatgca gaaatctttc cttgtcaaat taattaagat ctgacattgt 2700

tatagttctt caaagctttg aaatctgcct cttgattact tggggtatat tactgtttca 2760

gtatttataa tattttatat atttctttat ctgctataag ctctcttatc tatagagcta 2820

ctaagctgta aatagcttta tttattaatt agattatatt tcacatatcc ttctattcct 2880

gcaatattat ttaataatat cagtatatat tttccaaggc cttatttgct gatagaattg 2940

tcagtttagt tggtagctca ggccttgttt tgttatcagt atcaggatta aaatattccc 3000

atacttcttg cttgtttgca tggtctttaa taacttaaaa ctatacatgc caatcatcct 3060

gcaagctcag gatggcttgg acctttgtgg cgctgtcttt attatatgca atcgccattt 3120

tttgtcgtca agatattctg atctcagcgg aacttgttgt atatttgaag gagtaggctc 3180

cgggttgcca gtgtcctttg ggtaatgttc aaccacctcc tagcttgtct gtatagctcg 3240

gtacggggct gcagatatct tccatatgac aaaaagaggt aataattcca tatcccagtc 3300

cctagagcaa tgccgggctc ataactatgg attattaggg tggttatgta atcaatatct 3360

gtagtgaacg atttcattga aggtcttgat ctcctaacta tgatctgtat aggcaattta 3420

tacctttcc aaggcttcaa aaagaaggtt ctcgcttatg caggagatat ccttgccata 3480

caaacagtat gaggcatcaa atagatatcc ctgccataca aacagtgtaa agcattaaac 3540
```

12003

```
agacaggcaa atgaacaagg tgctgaacat tgattagtaa ggaggaatct cctccggttg 3600

acacttaata atctcttatc atcacgtgct tgggggtgca gctcacatga gcttatcaaa 3660

aagttcggat gagctgtaga cacgcgccaa gtctcttcca ccgagttttt ctacattagt 3720

aagccatgct atgggcccgt tcggaggtgc tatctccaaa tatctcgatc ctcaagggca 3780

gcttcgttct ctttattctc cgctgaggaa atccaagcta ctgacctgac tgggtcctca 3840

ggtctagtcg agtgctctgg aaaaaagagt ggcctttatg cgattgctcc ccagtagata 3900

ttagtctcgg agccatagga aacttactca gcttgcggaa gggtatcctc tgagacagcg 3960

cctttaccac gctcggaagg ccgaggagca gagaagctac ttcaaacaac ttcatatttt 4020

gctacattcc tattcccatt cctatcccat ctgaaggcat gctcagactc ggtccctgga 4080

agaagtagtt ccagaacgac atgtcaaacc cctgcattgt ccagtcatcg accccaagcc 4140

caacatccgc gtaccatggc tgcggctgtt gcgaaggcgc cgatgcttgt ccgtatcgcg 4200

gtccaactgc cggcggctct cctgctggtg gatgattcgt tgtgtcattt accagtggat 4260

cttgggccac cggcgttgtc ggccgaaatt ggagtatatc cttgccgtcc ataatctcag 4320

ccgcagaagg cgtacgctgg ataaaacccc gtacaatcct gacaaacccg aaccagggta 4380

tacagaagcg gagacccctc gtgagtggcg ggggaccgcg ctccgtttcc actttgacct 4440

cctcgggaga gccgatgctg tgtactacat aggtggcaga gccttgcgcc gcctcaccct 4500

caatatcaag tagacagctc agcaaatcgg cagatttggc aattatccgg tcctggctta 4560

cccaagcggt cttttggagg ttatctagtg tttgcgagat catgccacgg tcgctctggc 4620

gctggtgggc aaggggggctg aactcacccg ggctgcgggt atgttggcgg agatgagcta 4680

ggaggagaag gagggctgag gagagggtga agaagtcgat tacacggcag gaatatgcaa 4740

ctctgttgga gtttccgaga acgatgtagc gggtaaggat ctcgcgggat gcgttgatgc 4800

aggttgtttg tgagtaactt tgtagttgct cagcgttcgc aaaccgtagc atgtaaggga 4860

tgtggagttg gttgatgagg ccgtaatggt tgatctgcga tacgaggcgc atctcccagc 4920

cgatagagcc gtctagttgg actatgttcg gcactgtcca ccactcgcta ggcatcatct 4980

ccgctgcttt ctgtagctgg ttgtcaatat cgtgaacctt ctctaccgag tatatccccg 5040

catcattctg ctccaggatc cggtgagcga tcacgcaatg gacccgttcc agttgcccta 5100

gcggcgtatc agcttcaaag ggcccgcctg tggccatact gcagtccatc gagccttgag 5160
```

12004

```
gtcggcccat catcaaacac ataaaacgat cgatataagt agcccggtac cacaggaacg 5220

agccgtccac tttacaacgg cggtcgagca agcgcaatga atggcccggt cggtgaatcc 5280

caattacttg ggctaaggtc atcgccttgc gaaatgcaat ccaggcagga cagtaatatc 5340

cgctgtttgc ctggtagctg ccctccatca tcacgcattc tatgccctcc actgtgccaa 5400

gcagctcgtc gcgactggtg acgaggcgaa ttgctgtttc ggccagcctc tttgccatca 5460

cctgcggtgc ttccgaaagc ccagtgagct cgcgccaca tttcttgaga tctagagact 5520

gaagtgccat cacaattcgc agcatatgcc ttgctagcaa agccgggtgg ggaaccgggt 5580

ccgggatgtt gagaaatgat ctactttcaa cggagccacg actgtccttc tgcacgatgg 5640

gatatgggca cgttataaat tcatagaata gaatagggac ctggtcgagt acatcgcaga 5700

taatgctgag atcattgcgc gatggtaagc tggcgtacaa ctcctgaaag atgctcgcat 5760

aaggatccta gtcgtggtca gtaatccaac caaagataga actgctgggc tctacacact 5820

gccaatggtg tcgaaataga tcgcctatca cgctcagaat cagcaattat acgctgagaa 5880

gggaatcttg ggccaactcc aggagaatca gcggctgccg ggctgctagg ctcaggcact 5940

ctagccatgc gcctaccccc tggcgcattt tccacctcat cttctaccgg atagtcttga 6000

gtcaaacatt tcgtactggg tttttgacat gctatacaga cgccaccggg gctgtccaca 6060

agactgcacc gaaccttccg ccgtttacat tcccagcagc tggttgttcc cttccggatc 6120

ttccggcgct tcttggtaag cacagaatcg tgattgcttg aagttaaatg ggagggcatt 6180

ctgagagaga aatgcaaggt gagaggaaga ggcgatggtg ttttacgctg gcttcggccg 6240

ttgggtgacg agtcgtgtct ggtaaggccc ggaaaggtat agcgccgatg tggggtggtt 6300

taagtgtaga gttgtagagg ccgctacttg gtccctactg cttgtttact ctggtatttt 6360

tttcgatagc tccagtgacc ttgttgataa ttttagaagt gtttctgctc cgaaacataa 6420

tgacattaga tttccgtctt ctggcgtggt gatgtctgag acttcattat tgccggccca 6480

cgccactact tgcataagcg cacaaaaga ttagcatgca aatacatgat ggggcattta 6540

ttcgagcaat tatgaaatgc cttcgcaagt atcccttat cacttgcatc ttagccaata 6600

ctagtccatc aaaacgcgct cattcaacaa attctcggtg aacttccacg tctctgcaga 6660

atcatgtgaa tggaacgcag cacccgtata aaacgtattc cggtatccct gcagcccata 6720

caagtcgcga tagaacccat cagcgatatc ctctgaagaa acgtgcaacg catacggaac 6780
```

12005

gtggggacga aaggcaacta tttctgggtc cgatatagga taccctgcag cgcgcagtga 6840

cagagcgtta tcgagtatag tttgtcgagc ctgcttacta gatatcggcg ccgaccctcc 6900

tccgaaaaat gccgtccata agtctcggct agcagtgggc tcgaatacat gtgtagatgg 6960

cacggggggcg atattatacg gtgtctctgg tgccttgttg acgaattggg tcccgttgcc 7020

ggggaggccg acatacgcag aatcgccggg aaataggagt tattatcgaa tcggccgaat 7080

atttccgatt cacgctcatc gagatcaaag ttttctaatt ctcccagtag tggtggaatg 7140

gtgacaatga ccttgtcggc ttgaacgcgc tgttgacctt tcggagttcg gacaacaatc 7200

tgctgtggcc ccgagtcttc agcagagccc tgaatatggg ctacagtgct gctgagcaag 7260

aggtcgtcct aagctctcct tcagctgccc tgtaaagatc cgagttggct cggcttgcag 7320

g   7321

<210>   5818
<211>   14321
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations
<400>   5818

ctttagaatc agaacatgcc atcatggata tacttaagga ttgctttgag actcaaaacc   60

tgaatgaaag aatgacgacc gaactcgtgg gcaagcagcg gacatctcag ccctacaaaa   120

gatgggctta accaacgttt agcctggttc gctgggtcgg acctgtctta tcccagtcac   180

tgccgtttga ctagggtcta aaagagaagt tgggaggctg caaggctgaa aggctgaaac   240

caacaaggca gcgcagcttg cattgcggct gaggcgagcg atcggcccca actacacgca   300

atttcaaatc ccactgccac gcgaaagagg ggggctccgc cacggttggg gctagcaaag   360

ggatcgtcgg gaatttaata cgaggctcgc gcacgaataa gagcctcagc tgagtgttgg   420

tttgcgtgac tgccatatcc acaactggca tagcctcgaa gccgcttgca aagccgcaag   480

gacagcagat cactgtaggc aattctggct attaataagg agggccacgg cggtgttagt   540

gagctcttat attcaccatg attcctttca acctgcaaag attgtgcatg acagatgctg   600

gcaaaaatgc attactcccg atcgtcgtcg tttagctccc cgtcgctggc cagtaagtct   660

ggactttgta acccgatgtc cgagttaagg gctcacccga ccaggcgaat gcaagaaagc   720

12006

cgaaagaatt ctggactcgt ttatcaaccc cgaagtagtc agcgtcgaca agcagatccc   780

gcgcaaggtg ctggaaaatg cgaaggtgag aaccgttggc aaaacattct tagcgaagct   840

aaacagcaat cagggcctcg cgatattcag cgtttttgaa gtcggcatga tgcgttcttt   900

tcgcttcggc ttcggtgttg tagtcgcccg tttctttaac ggaacatggg cggccccctt   960

ggccatcacg accgggaaaa tgacgaccaa aggccaattg gaatggagca tctgagttcg   1020

attactgcta aatacgacag ggcctggagg cgttctcgca ggctaaagcg tactttgggc   1080

gaggacgtat caatagcagt cgggccattc gggcgcagcg ccgagctcgc gggggatgca   1140

tacgaggctg atatattcgc atactgcaag acacgcacag tttttggggg ttcgacattg   1200

gaaggagcga ctataggcga gagagtagat gcgaatcgga agatgtatca aaagacagtt   1260

tcaacgcgcc agctgcttcg tggggaggtc acgctgcccc cagagacata cgggctcatg   1320

aagatcctgc attcaacgtg gctgcggccg gttacgaagc gaccgtccgt tgaaaaggcc   1380

catcttgcca ggatagtcac gcagcaatcg acaaccattg agccgcgatc ccgggcatca   1440

acaatagcat cgccggcgaa gggagagaag ccgttttacg gagagcagat tttggtttcc   1500

acatcagatc accatagaaa tcacagacta ctcagcggtc cagctgccga gtagtctgac   1560

acaacatgag gagacgaggg agtcgctgga ttcagaggca tcgtcctccc caaccgggca   1620

ccctcctatc ctcaagcctg gaagacgaac ctggagtgcg tcgtccaacg gggtttggga   1680

taatcatgaa ccgctacatt tctaatgacc gcttttgcat aattgcctga atcacttgta   1740

tatagacatc agcctcagat accctagaca ttaacgaaga gacggctgta ccgttcaaat   1800

gctctggatg tgttgttcat agtgagtgga accatgaggt gcctggcgcc tagacgacgg   1860

tcgcatcgcg gatacatatt ccacagtcat tctagtcata ttgacaatga acagtccgag   1920

cgaacgccca atttggtctt tttcgagagg ctctcgtcgc attagtgttc gagaccttcc   1980

cttgctctcc acgacggtcg accaggcaga aaggggtaga gcagtggtgt atggcgcgga   2040

aaccacagcg agctcaagac aggggaagcc cataactatt ctaaaagtca gagcatacct   2100

tgtccttttc gaatggtgaa ccatggccag tatggatgaa acgattgcgt tgcgatgcac   2160

gaatagtaca gatcaggtga tgttttaatg ccccaggctg cgacattgcg gaaacggcag   2220

aaaaggaacg aatacgaaag actttgcatg acagcatcat cctattccta tcctggtcgc   2280

tatggacaac gaacaagctc agctgaagat acgatcccga aagacacatc gcaagtctcg   2340

```
acttggatgt ggcaattgca agaggcgacg ggtcaaggta ggtcattctc ttaaaagctg  2400

taccacgcct cgcggatata tctccgcgca aacacagcgg tattatttgc tgatggagga  2460

acagtgcgat gaaaagaagc ctatgtgcac aaactgcgta cagcattcta ttgactgcga  2520

ctttcgactc tcagcttccg gatctccatc agagggaaca acactatcgc atacacaacg  2580

gttcaaattc agagaatcaa agtaccaatc tcagatctct ccatcacaag agcaactcag  2640

gcccaattac cgttcatctg gagtccaatg cgactcagtc ccaacgatcg gcttcaaggg  2700

aggtcctggg gaaggtatct cgctgacaga cctctacctt ttccaccact ataccacatc  2760

aacgtactgc acctttgcaa gcgaagcggc gcactccgtt tggcaggtcc acgtaccgca  2820

atggggtttc attttttcctt cgatcatgca cctgctcttt actttatccg ctctgcatct  2880

tgccttcata aacccagcca aacgagaggt ttacatcaag gaagccgatg accatttcac  2940

atttggtgta cgctccgtca caaccgttct tgcgttggat acgctagatt ccggcaattg  3000

ccagcaaatc tacatggcgg cggtcatgat ctgctttgcg tatttcgctc gcgggccgag  3060

agacggcgag taccttgtct tcaatgtaaa aggcaagtct gagtggctgg tcctttttgca  3120

tggagtgcgt gcaatcctag cacagaaaca agcggagatc tttacaggtg tgcttgccat  3180

ttcagagaaa gagcagccag cggaaattac tgatcatgaa ctcgacatgg aactctcgcg  3240

acacgttcag catctccaga agattaaggc aactgtcatt gctgaggttc aagcggacag  3300

aagacttttta cattcaggtg actgacgacc tgatcggctg ctttggggat gcataccagg  3360

cgcgcaaagc cggttctgct ccaccagaac tgatgccgta tacgatggga tggacgtttc  3420

gtcttccaga gatgatgatt gagagactgg aagaaagaga gccgatcgcg ctggtgatta  3480

tggcgcactg gaccatcctg cttcgctata tgggcgaggc ctggtttatg cgcgggtggg  3540

accaacatat catcttgggg attagggcct gcttgcctcc agcctatcat gaccagattt  3600

catggcccga ggaggtcata gcttttggag gatgatgtag cataagcacc ttgatattga  3660

ctataatcta atatatctaa gcatacggat ggaacccctc agtgttcgtc gtagggctat  3720

gagcccgtta tacttctgcc ttaatagcga tttgtcgaat agcatggtct gctatgtatc  3780

cgcatcgaag aaaatccagc aaatctttca tgaaatctac agcagcccta aaaataacat  3840

gcatctccac taaaatctcg aagctttgcc gccccacccg tattcgttcc tgaattacca  3900

caacaggcaa ttggttgaaa caggttgatg gaccctgaag ttataagagg gttgagcaca  3960
```

12008

```
agcagctcaa tctctcttca acgattatta ttcacttctc ttctactgca agtcttccat    4020

tatcaagccc tgaatatcac actctctata cagcaatgga ctttaccttc caccccggag    4080

tcaacggctc gtctccctgg gttgaattct atccctacaa tccttccctc ccagctggct    4140

atgctttcat ggccattttc gccatagcaa ctcttgtcca ctttgtcctt atgattccat    4200

acagagccgc atattttatt ccattcattc tcggcgggat ctgtatgttt atcccccttc    4260

acccaactcc attagctcca caccaacaac cccagtacgg ccagtacaag ccaagaatga    4320

cgagatgctg acaagttcac gcaggcgaaa catttggcta ccacggccgt gctcgctcgc    4380

acaataaccg caccggactc gggccctggg cgcaacagca aatgctcctc ctctgcgcgc    4440

cccccttact ctccgcgagt atctacatga cgctgtcccg gttgatgaca gctctgaacg    4500

cagaagaaca ctcacccatc cgtccgaaaa gactgactgt gctctttgtg ctcaacgaca    4560

taatctgtct gctgacgcag ctcgtcggcg cgggcctcca agtcacaggg gacgagaaaa    4620

tcataagtat tgggaacaaa gccgtcctgg cagggttgat cttcacgctc tttgtgtttg    4680

gatggtttat ttggattgct tctatgtttc atcgacggct tgaagcccat ccgacggcta    4740

tttcgcttga tgaagcaatt ggcaattgga gggtttatat gggagttttg tatggagtct    4800

gcgggtcaat ggttgttagg aatctggtaa gaacaattga gtttgggagt ccgcatggag    4860

cggatgtgag aagtcgcgaa gtgtatattt atttgtttga tggagcgttg atggcatgtg    4920

tcatggtgct ctggctggtt tggcatcctg ggaggttgat taaagcggcg aggagggtaa    4980

ggaaggggt tgagggaggt gtagagcttc tgggggtaa gtaggccgac tatgcctgtc    5040

tttctaaat actgcttttc gtttaggttt gttcaggcgt atctgggagt tctggcgcta    5100

ggcgttcacg gccgcggaca ctatgttata acttaagagt gctgggagtg tttagatcaa    5160

taaatctcag attcaaatct atatgcacgc ttcataactc atcaacactc gcggcgtcta    5220

tgatgctatt cagaatttac gcggacttgc caaacacctt gaagcggtcc tcgatgggag    5280

caaaggtctt ctccagagga ccagaggtgg gagtaccaaa aacgagctgg gcatcaagct    5340

tccagttggc agggatattc cactgcttgg cgatctgctc gtcgatcagg ggactgtagt    5400

gctgcaggtt ggcgccgaag ccttcagagg ctagggcggt ccagactggg agagaccgtc    5460

agcaaaagga tcatattaaa catactgcct gcagattgat gcatacccaa gtactgagac    5520

atggcattgg actcgagagc aaaaggatca aacttgtcag cgtagatggc aaacttctcc    5580
```

```
ttgatgtcct tgagagcgtc gtagtcgacg aagaagagga cctaagcttg tcagccacta   5640

cccatgcatt ttgatatatt attggccggg tagttaatcg tacagttccg taaccagcac   5700

ggaatccctc tagcttcggc ttggtcgagg actcaaacgc ctccttgggc agcgcacccg   5760

cagccacgag accctccatt gcctggaggg caatgtccca gaccttctgg tgttcctcct   5820

tcagcagcag aaccacgcgc gaggtctgcg tgttgaaaga gctgggcacg tgcaggacgg   5880

catcgcggac aatggcctcg atggtgtcat cggagacggg gctctcagcc ttgaggccgt   5940

agatggtgcg gcgagccttg acggcctcga ggagggtggc agtagcgggg ttcttgaact   6000

cgaccattgt gacttgcgct gctagagaca attgtatgta cagtctatgg aaatagaaat   6060

catgaagagg ggtagagggg cagcggtctt atatcgccaa cagggccaaa ctgtgcgatt   6120

gttaattccg cccaagccag ccaatgagag gcgggcgacg gggccctctc gaggggtttg   6180

tcagcgagac gcgatgatta gaaattcggc gggacgccat cgcgcaatca taactgggct   6240

tcgatagtgt caggaactta ctagaccatt gtaccagctc agaattcggg ttacgaagct   6300

caggcaccgg cattggccaa ttccgtgcac caacagccca cggtgcctga gccaagctgc   6360

cgagtctccc cgaggaggcc gatcgcagag gcgttcctgg gcacgtgatg cgtggttact   6420

gtcggggcat actgcccttc agtaccgcct gcccctgggg ttcgacctcg attagtcatt   6480

aattagtaag ctagttgttt agataggcag gccattccgg ccacccaatg aaagaactat   6540

cccatctctc ttcccacacg acagtctgat tctgccgctg aagaccgctt gaaaaagcca   6600

agccaggcac ccaggcacca aacagagcac cagagatttc tcaggcgcga gccgtggaac   6660

tcatcgacca tttctggtca ggcgtgggac tcatccacca gacttctcaa atctcagccc   6720

ctgacactct ggtaacagga tggaagcgag gttgcctttt ggattttccc gccacccagg   6780

ggttgccgca ttgatagcaa tgtgaaatca ggttctccca cgtttcggcg gacgtgcccg   6840

atgacaggct tgagatcgtc aagcgataat cgcgtgtgaa cgcagcaagg ggctggtcac   6900

ggactctatt actaattcgc ttactatttc acagattcgc agcatctagt aggtcgggtt   6960

gattagtgcg aactccctca tacgatcagc aacgagtcag cgagtcagcg tcagtgagta   7020

cgacagcagt ctcggcagac accccgccgt cgagcgcagg ancaattgat tcagtgccga   7080

ttccgaaagt aatcccggtg gcgcctgcga ggcctccgat acaggagctg gaagggtgaa   7140

tttgtccttt ctggaggctg ggtttcatcg gccgagcctg acttttcctg aactggcttt   7200
```

```
gaccgaatgg cagccgcctc agtagtgctg ctagcgagtc tagcctccgg aatcggttcc    7260

aggcggacac tccccgtgca aatcagcgag gtaatggatg gcgaatccga gtgaaggcac    7320

gattcccatt cgacgggagt gaagtggtat agactagccg ttgacagttc ctctggctgc    7380

tctgaagttc aaatcaactc taccgacctc gtttattatc aagtacttta ttcagcagtg    7440

agcgtcaagg atatgcctcg actatttgat gtggacccag ccacatccct ggggattcgg    7500

gcagtttcgg aggcagacac tgagacatta cgaagcaaat gtcgggaata acgttgacgg    7560

ggcggaggtg catagcgcgg gtgcgatacg gaattgagca gacaaggaca gtcaagcatc    7620

aatgcgggct tagcagtatt agctgcagat tggcgctggc ctcttttcgc ttggcacggg    7680

ttcgcactcg caaaaccaat ggcttggtgc gcgcatcttt gtttgaattt ggtgagtgca    7740

atcagccgaa caagaacggc ggtcatcgtc gcttctggaa tgctgcatgg ttcgtatgag    7800

ccttggctat ccaatagacg atgactgccc gatacgtcaa gcgagcacgt ggcaagaggg    7860

atggagatac tgttgggaag ctggggcatg tgcatgcgac cgttcccctt acagattgca    7920

acctcattct ttccgtgcaa gcagcagtct tccggcaacg aatcactgtt tggtgcattt    7980

attcgatgcg acagctgagg acggaccggc caatgctatt gtgacatatc actgcaaggg    8040

acgatggggt ttactgggca tgccgagtag gacaatcggc cccgaggcta cggattgccg    8100

aattgaaccc taagagctgc cgcagtatga tccatgcttg ccctgatctc tcgtgccgcg    8160

cttccccagg gccagtcaac cttctcggcg gcgtgctctg tcagctaatg ctcgtaactc    8220

atacttgcat accatccgtg attaattcct gctcttatcg caaatctact tcagccgtga    8280

acttaccctc tctacctttta ggcaaaagag agcgccgccc ttacccaacg ttcgacacgg    8340

cgccggtttg tttcttaaat gcgaaccgcc ctctggtcca tatgtacttg aggggggcgca    8400

cattatacta tggacagacg gatgcagctc aacggatacg ccagagttgt ttgctgaccg    8460

ctttgctgtt gtatgacaaa ctcagcattc ccgcgcagag tacgccttga agaaatttct    8520

cgcgaacgcg tctgcttcgg acacagcgtg aagtactgcg ggaggtatct acgcatgaca    8580

tggcagtcaa ccgttgcgta gacagcctgc tctcattggc gcgcctgccg atgccaggtc    8640

ctgaattttt ttggtagctc tgaagtagcc tgcgcatgta ttccggtcgt agtatggtag    8700

caggttaata tattggtgaa actggattca ttcataaggc agccaatgta ttgcctgaca    8760

acagtaaggg gcagcctgct gggtgacggc cggagattat ctgaactggt cgccgagctg    8820
```

12011

```
agcagtccat aggccaaggc gctggccctg cagtcaacac aggaaccgac cactaagacc  8880

ccggtcagcg caataaattg cactgcaggg aatacgttct cgacctcgtt tgtttgtttg  8940

ctagggtttc ctaatcggcg aatatgtgca gctttatgga tgtgaatgcg acctgtctca  9000

acaggagggc gtggtcaaca cgttgatgcg gcacatgact tctgcattgg tcccaggggt  9060

aaagatatca cacaggtata aagagcccag ttgcagcaga ccggtcgcag ctgaggcatg  9120

cagagctgaa gcatacagag ctgaagcata cggagctgga agcatacggc gagctagcag  9180

tcattcctca cctttctcta gcactgcttc cgctagacta tgcggttctg gacgatggcg  9240

gcctcctggc tgagactcgt ggctctgatg ctcctgctag tgccatctct ggcccgcaat  9300

atccctcgag ctggtaattg tacctcgctc aacaggagga agtcttggtg cgttgctttc  9360

cgttgataat gtcaagtcat tcacgccatt caagtcattg aagtattaaa gtcattaacg  9420

atattaatgt accaggaacg cattgacgag ggtcgaaaag accggtaagc gcgccttcaa  9480

ccgcgaccaa gaggccagac tgacgaattc agagtatatc caggctgaac gatgcctgat  9540

gaaccatgcc cctatagttg gaaacgtcaa agacgcaaaa aacctctggg acgaactgca  9600

cgacttgcat atctcgcaag gcaattacgt ccattacgtg gccatttcc tcccgtggca  9660

tcgttatctg gtgcgcgccc atgaagtgct ccttcagacc ctctgcggat acaaaggggc  9720

acaccgtac tgggacgagg tcacggatta tgaggctggc ccgttacaga ggtcgcccgt  9780

cttcgacccg gtggttgggt ttgggggaaa tgggttcgga agtaggccca cacctgcccc  9840

gtcttaacgc ggtattagag tgatgaatga taaggatatt taaggttgtt tttgggcgat  9900

gcgattgtaa cgcggtccac tgcggtgggc ggtctaaata ggaaaccggt gtattcagaa  9960

cggcccttt aaggacacga cgctgcgcat ccggtccaac gaacgaaacg gcgaatactg  10020

ccttagccgc gctttcaacc agaccgtctt tacatgggca aaccgccgca atatcgagga  10080

atgttttgca ctgcaaaaat atacggatgc ttggcaatgc tacaaccagt atccgcacgc  10140

agcggggcat attgccgttg gtggcgtggt gagacatcgt ctcgattact ggtctgggcg  10200

ataataatac tatggctaac gcgggattaa tctgcagatg gaggatccga ccgaaagtaa  10260

cggcgacccc ctgttctacc tccaccatgc gtacctggac cggctctggt ggcggtggca  10320

gcaggccgat ctgcccgggc gattgtctga tatgggaggg cctaatgtag tgccgccga  10380

cctaatgcgt ctgatgggga tgccgcccgt cagcgcggca ctgttggact acaatggcga  10440
```

12012

```
cccgggcggt gagaccacac tggcgcacgt actgtggatg aacgggctgg tgccgaatgc 10500

gaccgtggct gaggtgatgg acattggcgg gcaggtggta tgcgcggaat acgtggatta 10560

gccggtagag tgctgggtgc tcagtactga ggactgagta ctccagagac tggagaatgg 10620

gtctggagaa tgggaattag caatctggag aagatgccac gttcccccag atccagccat 10680

ccaagataag tgccgatctt gattcagtgt gattatgaca tgtagtaatg atcttgtaat 10740

agtattcatg gattggttgc gtggtgttat cagtgatgcc atcgtgcggt tcgtgtaact 10800

tctcgaaggc cgagagaccc gacactagct tgatgcggct agtgcaggag acgatcgtcg 10860

gccattggct gatctgctcg ataagcccct cgaacgcggc cagccaagcg cacgccacaa 10920

cgcttgttag tcacagaaac tcaaaacggc cagccgctgg ccaaccagcg gccggctagt 10980

ggggcgttta ctctttcctc ttcgggcatg caaaatccgg cagcagtttc cacagaatcc 11040

acaatctggg ccctcaggct cagtgttaca tctgctgaag tcagatttct tgatcctttg 11100

tctctcgtct tctcttaacc tcgtctagta ccccggtacc tctgtggctg ttcagaatcc 11160

agtctcccag tctccccgcc tcccctcaac accgcgccag ccaacactcg atttcaacaa 11220

ccccagggac tagggacatg gcttcctcta cagagatctc ggacgctgag tccaagaagg 11280

tcaccatgcc ttcggggggcc gaaaagttcg aggcgccgcc taaatacctc ccagcagagg 11340

acggcgacct tgtggctgag atgagcgagc gtgagcgtaa tatctatgag cacggcacgg 11400

ccaagttcaa tcgtctgggc tggaagcggc tcactatcgt cctgatcgtc gaagccatcg 11460

cgctcggttc tctatcacta ccgtctacgt ttgcaactct gggaatggtg acgggtgtta 11520

tctgcacagt cggagtggaa ttccatgcta tctacacctc gtatgttgtc ggacagggca 11580

agctaaagtt tccaatggtg caccactacc cagatacggg aaaactgtct gtttgcccgg 11640

tttgaatatc acctcgttaa cttcatgctg atctttcagc tacttttctt gacgggctct 11700

catactctta ctggggctat cgcctggatc gatattaccc agagcgacgt ttgctctgtg 11760

gtctttgcgg tcgtttccgc cattatcctg ttccttcttg ctgttccacc tagtttcacc 11820

gagatggcga tcctgggtta catcgacttt gcgtctatca tccttgccat tggcatcacc 11880

atgattgcca ctggtgttga gagcaccaat gcccccggcg ggctcagcgc cgtgaactgg 11940

tcggcctggc ccaaggagga tattaccttc acggacgcct tcattgccat gaccaatatc 12000

atcttcgcct acagtttcgc catgtgccag ttctcgttca tggatgagat gcacaccccc 12060
```

```
tcggactacg tcaagtccat ctgggccctc ggtctcactg agattgtcat ctacaccttg 12120

actggagcta ttgtgtatgc gtttgttggc caggatgttc agagccctgc cctgctctca 12180

gccggtcatt tgatgagccg tgtcgctttt ggaattgcgt tgcccgtgat cttcatcagt 12240

ggttcgatca atactgtggt cgctgctcgt gtcgttcacg gccgcatctt taaggactcc 12300

cctatccgct tcatcaacac gaagatgggc tggattacat ggctggccat gattgctgtt 12360

ggtactgtta ttgcgttcat catcgccgag gtcattccct ttttcaatga cctgctctcc 12420

atttcctctt cgctcttcat ctcgggcttc accttttact tcccggccct catgtggttc 12480

atgctgatcc gtgagggatc aatcttctcc tcacgcaaga atatggcact cgccgcgctg 12540

aatgcgctgt gcttctgtat tggtgtcgtg acactcgtgg ctggtaccta ctcgagtatc 12600

aaggacatcg taagttatcc gctctgttct tctttcgagt cattactaat tcaatacaga 12660

ttgacaagta caacgccaac gcggtccgcg gagtcttcag ctgttccaaa ccgaattaga 12720

cgacgtttct cgttctttgc atttattgta tgagtcatag cgcgcgtgga tgcatttctc 12780

ctggtgtctc tcggagttca attcgacgta catttttttcc ttgcaggcgg ctggcccaga 12840

gtgtatagta acgcatattc aattctcata gcatgttttc atacttcgta gttgtgctgt 12900

attgtaacca agttaggcat tttctgagac atatctacac gtataatcac tctttctcca 12960

cctgtccgac aatatcctcc ctcgagatcc cactgcgctc acacatagcc ctaaatattc 13020

catcttcctt ctcccacaga ttcaatggtg tatctatctc cgcgatcgag ccctgatcca 13080

tgacacaaat acgatcatag tggataatcg tcttcagtcg atgcgcaata caaagcaatg 13140

tcttcccttc aaatccctgc gccatagtct cctggatccg ctgatctgtc gcaaaatcaa 13200

ccgacgaggt ggcctcgtcg caaatgatga tccttgcgtt ccgaacaagg gcacgcgcca 13260

acgccatcag ctgccgctga cccagcgaga aggttagacc ctcttcatcg accgccgtgt 13320

cgagcgttag tctctgtgcg ttggcattgc catttggatt cgaggcatcg actgcggaat 13380

ctttcgtgtc agagtcaatc aaatgagctt ttcgtaaggc atcccacagc tcaagatcgc 13440

tgtgctcatt aaacggatcc agattcgagc ggatagaacc ccggaacagc gttgggtcct 13500

gcggtatgat tgctagccgt gagcgcagat catgcagtcc aatagtggat atatcgacgc 13560

cgtcgatggt aatccggcct gatgacagct cagttagtcg aaagagcgca gacatgatgc 13620

ttgattttcc ggccccggtt cgtccgacga ttccgatgcg ctctccgccg gatatgttca 13680
```

12014

```
tcgagaggtt tttgaggact aggggggagac cggggcggta gcgcatggcg acgttgtcaa 13740

atgtgatttc gccgtgtggc ggccatgatt ctgggactgg gttggaaggg atgtgggctg 13800

gtgcttcttc ttccagttgc gtgccgtagt agtgcacgcg ttcggtggcg ttcatgttgt 13860

tttctacttc ggcgagctga cgaacggtga actgcagcat ctgagcgatg ctaggatgt 13920

agcttagcac taatccggag atggaaggag acacgtcgaa acgagaggtc acgactagca 13980

cacccgttac gaagaccaag aggacagcga cagcgtcgag gcgcacggag agccagcgtt 14040

gattggagaa agttaggaag tacgcgccgt tcatggtgtc gacggagtca cggagggaag 14100

agcggaattg gttctgtacg ccatacgcgc ggatgctggc tgtaccagtg atggcttcgc 14160

tgaagcgggc gtagacggcg gagcggagga tggactcgtg gcgtttcatt tcgcgcgcag 14220

acgagcgata gtaattgctt gccgtcaaaa agaggaggaa aagtgggacc agagcaatgg 14280

cgaagtagtg gtagaagacg atgatgagaa tcatgatgga g                    14321


<210>        5819
<211>        8611
<212>        DNA
<213>        Aspergillus nidulans

<400>        5819

tagcctgtgg ataagccttc ttcataatca acttgattga actcgatcaa gtcactgact    60

tgctgatacc cgtactcaaa accctcccaa cctgcaggga cgttagcaga tatcgcaagc   120

tcaaacgtga actacggact tacgatgcga aaaaggcaat caacagcagc ttcgggttat   180

ccaggacatg gcgccatcga tttttgtata gcgacttctt cgctcttcc tcagcggcaa    240

catcaacggg atccatattg tgatctcgca tgcacagaag gactcaagag tgccactccg   300

tagctaacag aatttgcaat accccgtgga caagaacagt ctggggggaa tactcctcgt    360

aaaatagctg taggtcgatt gcaatatctt ccatgttatc tatctcgcat gaccagttca   420

taatggctgt tttgtgaaat atttctaaac ttgagcgcct agagcttccc ttttggatgt   480

ccaagcgacg cctcggtcga gctaagatca actagaagga agctaggttg aatctgcact   540

atagcctcgt ccggtatgcc taagatcatc agggctcgtg ccgatgaggg cctaatcctt   600

cccgaataag ggactcgggt tttccccgat accaccgtgc cattgcggag ccccggtttt   660

ctctacttgc aagtgacaaa aaacggcaaa tgcttgagtc cagatctgtg tctagccctg   720
```

cgagagatgt gggggtgatta atgtcgtctg gcaaggaatc aagagaggcc gaggcagcag 780

gcggactacg tataggccgt gcgatggccc gcttacatac tccacagagg ccgctgcggg 840

gatgaattcg ttgaagaccc tatcattggt aggattttg gcccaaaccg tgcttggcag 900

cgtcaatcct acatcttgag gagacgtgga gactcataag atgagaaggg aaggattagc 960

cgcagagagc cttatgatac atggcgtggc attcgggcaa atcgttgtta atgacggttt 1020

aatgctgggt acggtcaccc atgggacacc ataagttata ttcaggctct atggttgcta 1080

caatgccttg ccagatatct ttcctggagc tggctcgcaa caggtgtaat gcccgttggt 1140

gctgatagga tagcaagaaa gcaatcagac tgtcagtaag tgctcccaga gcagcacatc 1200

cataaacaat ttcgttggcg gagacgagct tagcttcacc ataggacgct gacatcaata 1260

atcatttacg actgaaagtt gtgagcgcaa ggttcgctga tatatatcgg ggcacgaatt 1320

cgagcgaacc cgcattggtt gggaccctgt tcaacgatcg agagcgatta caagctggat 1380

ttcacacctg cagcataggc agaaggatcg agtgatttag aaatagctac tgctctgagt 1440

tgctacatga gggtctcgga tcgaaccatg gactttcggt tgaaatctgg ttgggaagct 1500

caatgcgtgc tgggacgagg gtaacccact tgcgaggcct tcaaaatgaa cacgacaaga 1560

agacggcttg caggtgagaa gaagtgcaaa gagtgaaact tgtcagtggc ggacctggca 1620

gcattcatgc ggactttcg cggaagtggg cgtttgacga cacagttggc acttcgggat 1680

tccctagagg tgattgcagc ccggcacatt gtcaatgcaa aagcaattcg tgataacctg 1740

gaggacattc gaggacctga gctctcattc aatcgttaca agcgccgaag tgagagggtc 1800

gagggaggca ggccttggct tcccacgtga ggggacacgg aaaatacctg attccttcta 1860

agcgctggtc aggtatggga actcatgcga gccattctta aatggctatt agagtcccgt 1920

gcaactagtg gagaagacgt tatcgtctct gactcgatgc aaggaccaga atcagccgat 1980

ttgagctgaa ttgaacagaa ttgtcctacc tgcactatga tgttgtgatc gtttccacgc 2040

ttacagagct gaaaacgtgc ctcctcaatc tagagaatac caagccgtta tcaggaggag 2100

ctaggagtag cagaggcaga ttcaggtgga cttctcgaca tccctgcccg tttctgtcgg 2160

cactgctgga gattggagcc ttgaagaggc cttgtcctcc tgtaaagtct tcaagaggat 2220

agctgtaacc caaataatca atgctactga caaccgatc attgcataca tcccgcgggt 2280

gaatcgcggc gccagatctg ccgagtagaa cagaatgctc caccaagcat tgacagcatt 2340

12016

```
gttgcccaga ttcatgctag caatcacaac agaacgatgc cgttcctcct gcatcctcat 2400

cgcatcatta caccatgcga aaaaggttgc ttggcaagca taaacggctc cggcccaata 2460

gtatgcacca aagactgtag cggttgagtc aaaccgagtc agaataagta tcggcgtgat 2520

gatgccagta atgccgataa aataacccac aatataccgc ttaccccccc aaaaatcagt 2580

aagcgtcgcc cagaacagtg tagagacaat tccaacagcg ggcacgccag tagggtagtt 2640

gttaagctgg gcaatggagt aatggtttgt ggggtgcgac ttcatgtaaa gtgccaacaa 2700

agaattggac gagaatgact ccgtctcgcc tgcaatcacc caaagaatga caaacgccca 2760

ccaataccag gtcttgaata ggttttcag gaatgttcgg ttaaatatcg gggcatgctt 2820

cgctaccggc aatcgggaca cggccaaagc tcgctctgag gatgtaaggt atggagcttg 2880

ggttgtggct ggagtatcag gaaacaagaa agctccgtac aatgcaacag gaagggttat 2940

caggccatca atctggaatg gttagctggg atgaggcaga aatcgccctg gataagagtg 3000

gaatatactc actatgaaaa gccatctcca gccggacagc cctgcagcac catctaacga 3060

cgaatggatc ccagtttgga tgaaaccacc gaacatttgg cccgcgagcc cgcttgcagt 3120

aaagatcccg ctccttttgc ctagttcacg ctcggtatac catgacccga gtataaaatg 3180

agtgccactg aaagtgcttg cttcggccac tcctaggaaa aagcgtatcg ccattatgcc 3240

ttgtgggttg tggacagccg cggtgaccat tgttagacct agaacggtgg taagcgcagt 3300

acgaacccgt atcgaaggca tacatacaac cccagcagag aatcatagca gggaaaaata 3360

tgcgtggacg caagtaggtc agcgccagat tagaggggat ttgaccgagt atatagccga 3420

cagtgaaaac agtgtttatt tgattcaact gattgccccg gaaggagagc tcttcctcca 3480

tgccacttac atacgcgttg gtcaggttgg agcgatccag atagttgaag aaataagtca 3540

cgcagcagaa agacaagata aaccaatcga tcttgacgag tagctttgtc tctgggtcct 3600

tcgcccacca cattttggat atcaagacgg ttaggctacg ttcaaggcgt tggtggttgc 3660

agtggaattg gagggatata tcgcctcctg ttgatcgagg aataagaaca tcattccact 3720

cgctgggaag tccaagattg gatgatgcaa caacaatacc acctcggcat tgataaacga 3780

cgatcttcag agctctcggg tgaaaatcca gctcgtggac tgggagattt tctttattg 3840

gtgccttata gattaggctg caatttctac gctgagcttc actgccggca cgtgaacgac 3900

ttcgtcgccg cctttcgaca actttttcta gctctgccgt gacatcgacc cccttccctc 3960
```

gtttctagaa cgtactctta tttgactact agtttctcag tatactatgc ggtcatcttt 4020

ccgttctttt attgatgtcg ccgtcgtcgg agccccgggt tcctctcaac tagtcgcagt 4080

cccacgacca acagacaact tcgggctgca gctgcccgat cgaagccggg gatgaaacca 4140

ttcaagcttc cctggagggt ccccaagacc gccaaagagc cgcagataat cagtgatgaa 4200

aaggatttga tcccccaga gcctacgcaa ttgaccttct tctcctcgca actggattcc 4260

tgtatccagg cctcgagcct cgacgatctc aaagccctct acgaaccgct ttgcccgctt 4320

ctcgaggata gaacgtacgg aggactgtgg tggctggatg tgacggcacc ttccgaagat 4380

gatatcgaga cgctctcacg catcttcaat ctgcacccgc tgacaacgga agatatcaag 4440

attcgggaga cacgggagaa gatcgaatta tttggaccct actactttct atccttgcgt 4500

cccgcccgcc gggtagaatc agatgaagga gtgcgcactt cgccaatcaa cgtctatgca 4560

gtcgtgttcc gcgatggtgt cctcagcttc tcaatgggca gcaatcccca cgtcggccac 4620

gtccgaagtc gaatcaagga gcaccagagt catttatact tgaccagtga ctggatttgt 4680

tatgcactca tgtacgttcc ttgttagcgt tccatctcct gcgctaatcg tcgctaatcg 4740

tctacagtga tgacatcgtc gacggcttcg ctccgttcat tagccgagtt gaacagggcg 4800

tagacacaat ggaggatagc gtatctatca cccggcctga cgacatcgga ctagctcttc 4860

agcagatcta ccgttgccga aaggaggttc tccacatccg ccagctgctg aacgacaaaa 4920

cagacgtcat tcgttgcttt gcccgccact gcgatgcctt tggtgcttct ccgtcccaag 4980

tggggctcta ccttagtgac atccaggacc acgtcttgac aatgatggcc aacctcgacg 5040

cagccgagca gatgctctcg cgcggacagt caaagtacct cagccagtta tcgttcgact 5100

cgactcgcat gcggaaccag atctcgcatg ccctcagtcg gctaacggtc atcgccggca 5160

tagtcgtgcc tctccagttc gtcaccggtc tctttggaat gaacgtcacc gttccagcgc 5220

aggccgacaa agcggacagc ttgacggcat ggttcagcat tcttggtgtg cttgtcgcgc 5280

tggttgtggt attctttgtc gtagcccgga ggctgcgtat tctatgacta tatggcctct 5340

taccgtcaac gcattctata catttgttgt gtgtcgcact caagagaccg actaagagac 5400

tgatagtttc tagtaatagc caatgtgatt tttctttagt tggtttcgcc tctacgctct 5460

aaagctgaag tactgtcctc caaacttccc attactcagg gattttgagc tcatggtccg 5520

tttatcaagt ggacgtattg tcccatctgg cttagcccct gtaggatcac gtgagtgagt 5580

12018

```
agtgatcaac tctacagtga caaggcttgt cttctgttag cagccaacag aaaacgagtt 5640

cgtcccaagt tttatctgtg ttgatgcgac taacagctat tactgttctg ggatgattta 5700

tggaatgtcg acccagggcc cgatacctta tatatttcct ccggtccact aaacttaaag 5760

aagacctcac tgggtgattc ctgtgttgtg gtgcacgagg ttatcgtttc gcaaggccag 5820

aatggcccac tggagcagat tcaaagagtc agaatcttca tattctattg agacttaata 5880

tactcagaaa acagtatagc taaccaaaac tccagtagga ctccacactt gaaccagaca 5940

gcttggaata cacaagacaa agaagacaaa gatagtcacg ggttactagt gaggaaaccc 6000

atctcccgcc acctctctat atagcgcctc acctcttcct cggtgacagg cccttgagca 6060

gccaacgtgg ccgaatgctc ctgagaaagc gttgtgtcta agactaaccc gccgcaggcc 6120

atatgctcga aatctcgcgt aaagaaatcc atgatcttag ctgcgggtat ctcgcggtct 6180

cggtctagtg gagaggagcg cagaaggtta aggaactctt ggtagggaat gactctatct 6240

gagggaatgt tgagcgccga tgttatgatc ggcgtcattt ccttccaggg ctgccccacc 6300

gggttgtcga tgtggtagac tggatatgcg tcgggttcgc tcttgttgag ggttgtgcca 6360

gtttggttcg agtccgactc aataccaggg agaaggagat caaccattgt ctgagcgaca 6420

gtgtcaacgg ggacccagtg cagaggtccg tcaagatccg gccacgcctg cagagtctgt 6480

gcggtcttga taagcaatgg catatgctcc gtatgcggcc aacaaccggt atgactagag 6540

ccggtgattt gaccggggcg cacgaccatt gggcggaaat ggtcagggta acggtggagc 6600

gtttcatcga gcatgcgctc acatacccat ttagcctctg ggtagccgat gggcaaggac 6660

gagcgaagat caacccgttg ctctagcaca cgctgctggg ctgcggagcc gactacactg 6720

attgaagaaa cgaattggaa gccgaccctc atgccgttcg ggctgcaatt gcacgccatt 6780

tcgcgtgcca ggtcaaggag atttcgcaac gcttgaaact gaggcacaaa ggtgtgaatg 6840

ggacgcgcta gactcatggg ccatgcattg tgcacaatgt gagtggcatt ccgagcgagc 6900

caggtgtact catccgctgc aagacccaga tgcggctcgc tggtgttgcc gtcaagcatg 6960

cgaagcttgc tggattcagc ctccgtcagt tgtagcttgc gcgttgagag tgcttgactc 7020

tgtcggaggg tgcccggggt cttgctacgc cggtttaagc agataactgt acgaacggac 7080

gggtcgcggg cgaagctcgc tactaggtgc gacccgagac tcccagttgc accagtaatt 7140

atcacgacat taccgctgtg ttctcgcgcg gatgaccgcg acgacactgg gggaatgaac 7200
```

```
cccgctgtat atcgagccac gtattgttca gcgatctcct ctcggtcagt attttgtttt 7260

gccatctcta caatcggccg ttgcgatttg aggaaggtgt cgtcgctttc cgcaagagag 7320

aggacctcag cttcatctct agacgaggta atgatgaatg gttcgcgaaa atcatcagta 7380

gaagagcatg ccacagtagg ggtcgccggg tccgactcgc ccgacgagtc tgtatcgtta 7440

ggagaaccgt gattgtcgat attttcagaa gcggccgagg agccgggtat cgagcttgag 7500

atatagttcg tcagcttctc gaccgtagta gcctcgagca ggtcgttgtg atctggtgag 7560

aatttgaata ctccctctat ctcacgagcg agctccatgg ccattagtga gtcgacgccg 7620

agatctgata gctccgcatt ctggtttatc ttcgccggtt caataccaga aacactggaa 7680

agaagctggc agacttgacc tgtgatatct cgtttctgca cggacttgtg cttccaaggt 7740

gcttcggcta agacgatttc ttgtgcctga attatgggtt gcttgggcgc cgcagtgacg 7800

atatcctttt catggacact ggggttgccc ggatggaaat cagacaagat tttgcgcata 7860

acggtcttcg gaagccgact gaacttggtg cccatgatga cttctgttag ggctccagtg 7920

cgcgagtcga agacgaatac atctgtcaaa tatactttgt cggacacgcg caaatgacga 7980

gcaagaacat gccatttctc agtgccgtct tcgcccttct ccttcacgtc ggccagactt 8040

ggagaccgca tccatagctc acacccagtg caatgaaga catcgtctgg ctgcgatcc 8100

gtcatacagc tgacccagat acctcctgtc tgcataaaac attcgctcag cggcacatcg 8160

agccatgttt catgagaccg cttgcgtatc acgcacccag cactctcatt accacggccc 8220

acgagccgcc gaagactacg gtacaggggt gtgtaggaga tgacatcact gaagccttgg 8280

tatacgttgc gcccttggag gacgtggatc tcatcgtcca ggtcgtcagg ctgtgcaccc 8340

gccaaggcta aaatatccgt acactgacgg tatggaacga gcctctcgag acgcgcaaaa 8400

tcattccggt agagcggatc ctccggactg cggatctgca gggagccctt gacatgcaga 8460

agactcgaac tacttccttc acgcgtgctt gtgatgttcc agtcccatag catacacgac 8520

tcgtcagcag cagatagctg tagccagaat tttcgtattg gatcaagaca aacagcggct 8580

gagttgacta tgtctcttag catgggttgg a                             8611
```

```
<210>    5820
<211>    3622
<212>    DNA
<213>    Aspergillus nidulans
```

12020

<400>   5820

agattgcact atcacaacga ctgggccttc accgtatcga gacaaccttt cgaaattata   60

ccctgatcta caagtgccaa tgccacccaa tacacccact ctagcccagg ctggctgcag 120

gtgcaccttt ctcgtctctg ttaaaggtaa cgcacactgg agacaggctt gtgggatttt 180

gtccagcaaa ctggagcgtg tgcggtactc gcgctccgag aaaaatatct aatagctcgc 240

ctgaggacgt cgagcccata caatatgtcg acatattcta cgtatttagt caccttcagc 300

ccaatccttg cccgtatgac gtagcggaca cattatcaga atggcggcat tattatgaga 360

taaggcagta tccttagtca tgagcgacag gtgtctatgt cgtgaattg tcaccgtgga 420

agtgccatta cagaagtgac tttgaaggca ggttaaccag aagctatcgt tctgaacaaa 480

tatgaactac tcccaggccg gtccggtcac gaaaagcatc tattctccca actttgtcgg 540

acgtaatgag gattggaaaa tagtttcgaa gccttggtcg gtacataacg aaagacggcc 600

gtcgctcttg tcctgtctgg gaaatcaatt tggtgcaccc atggaaggag cgtccatctg 660

gtataatccc ataagaagta gcacccatct tatgtttgat cgcagcttcc gtcagtgttt 720

ctgatcgtcc ctgggatgag tgatagacac ccgactccca tcgcaatcgc ctcatcggaa 780

tgattaccgg aatcaagcga tttcaaaagt gagtcaggaa gttaagcttg atataggaag 840

gatcaggatg ctgtttttg agggaagata caatggttct gagcgggaag tgcgataggc 900

caatggccgg gccggctctc aattgcattt acttattgag aaccccattt tcgaaaggag 960

atggcgttag ccaaggccca aggcaggctc ggccaatccg gtgtgttgat tgtttggagg 1020

catggattcg ttcaattcgg acgaccgatc gccggcttgt tacacctggc acgtgtatga 1080

tatatacgca ttaattcact atacgtatag caggcaaaat gagcaaaaag tgtaggcctt 1140

gagaatatgc atgtgactgt tatatgcatt gcgctcagta tatataggta taatcatgta 1200

cagtcattca aaaatctatg atgcaaagga gtgttgtatc cgtgccaacg ccgatagaaa 1260

aaagcttgca agtgactgaa aatgctaact agaagaagcg agaaaatgcc ggtgtaggtt 1320

tagtgccgag atgttgcgca ggaaaagtcg tactgataat ggtgaaggct gtatagtggt 1380

gatagcccgt ctgtcggtac ctattaagag gtcgtaaacg tatgcaaggt ggtatcggag 1440

tcgagcaggt agtcattatg tacaatgaat gtcaggaaat cgatcgagct gggtctatca 1500

agcagtgaac atcaggcgca ggcgactaga ccgtttcacc ttttccttgg gtttcttgct 1560

12021

cttgtctttg tcggaatatc gcgactcgga tgttgaggga gcccttgagg gagccttcga 1620

gggcgccttt gacggggctt tggaaggagc ggccttagtg cgtcttgaaa agatcgattc 1680

tgccctcgta tccactttgg ttggggcatg gctgtgactg tgcgtagatc gagaatggcg 1740

ggaacggtgg gaccggcggg aagatgcaac ggaatcatca tcgtcgaact tgaagcgggg 1800

gtcccgggac atgcgggcgg tggttatgtc gatgccggac attgcggcag ccctgggcgt 1860

gatgaactcg ccgtccacgg ttgcaacgct ctcggcctct gcgtctgcta cacctcgtcg 1920

ccacatctcc acggagttga ggcagtcggt gttgaattca atcatctcgt ccatttgtct 1980

ggggtcggat tgttcttcga atacttcttc acgcagagca cgcgaaggct gttgtagctg 2040

cttgacaatc ttgtagccgc cgaacataac gatcgtggct gtgaggccga caccagcggc 2100

aatcaaaaac tgcgggctgg cgagtaaagc ccaaatcatt ggcgctgagg ttttcagcat 2160

tgtgagcgcc gacggcgcca tcttgccagc aacgttgctg atttccgcaa gagtaagcgc 2220

caccgctgcc atagcatctg ggttcttttg aagatggtcg atggtggctg tcgcggtgtg 2280

ctggacgcag ttggcctcct ccaataacca ctgtgcgcgg cttacaaggc cgttcagttc 2340

gggatcgtcg atcgactgaa gctgctgatc ttgtggagat cctcgcggag ctatggcgga 2400

tgggtggaac tcgccatagg ctaggtccat atctatatgc gcgtcggatt tggagcgagc 2460

agtaacaggg cgagcgtccg gttctcgaat ggtaatatca tgatgagtgt gacgccggac 2520

catttcagtt ggaggctcgt agtgagaccg cgcacgcgac gcggaagagt gtagatcctc 2580

ttcgtagacc gatccgccgc gggggcggtc gtattgatat ggcttcgac tcgaatgatg 2640

atgatgatga tgatggcgat gatgtcgcga acgactcctc tgcgaggacg cgacagatgg 2700

ggcatcttca atagtatagt tctgaagcgc cctcagtgct tctcgctcag caattttctc 2760

tgcgatcttc aaattccgct cggcttgaac ttgagccttg cgctcgcggt aagcgttttt 2820

ggcatggctg aagacaccga acaagtgttt gctctgttat agcatgaatt agagtcaact 2880

cagttatcat agacaggggt actatatacc caccgtgctg acgacttgcc cagacttatc 2940

aatgaccgcg gtgtctcgcg aacggcatat tattgaatac tcgtgcaaga actgacgact 3000

gcaacagtaa actggcggct cttagagacc taaaccgacc aaatgagaat caaatgacga 3060

ggagcattga taaatgatcg cgacgtcaa aggcctcgct aggaggacga gcggtgtagt 3120

attttgatgg tctatattaa gacgatgccg gtaagtcggg tccaggtggg gatttaaccg 3180

```
cgatcttctt ctgtacccac gatgcggtct ggaccttata ttggcgttct aaatgggtga 3240

cggatatgca gagaaggcga gttttttgca accggtgttg ctggaaagct gttgcctggc 3300

gataaagttg gctgttcagc tgagaaaggt ggtggtatat gagcaggaaa ggcgaatggc 3360

ggcaatataa caacgcatat gcacagcgat aaccgcgcca cgacggagtt ctgatagagc 3420

acaagaacac agagcagggg gtatgagact gaagagaaaa atagaggagg ctggggtttg 3480

agcgatgcgg cgtctaaaag ggcacgaagc agcgaacaga gaccaggtta cagagagaga 3540

ggatgactgg ttgggtgtcg atgaagctag gaacaaggca acaaatggt gctcagactg 3600

acggccgcag cacccgaatg gc                                      3622


<210>    5821
<211>    4053
<212>    DNA
<213>    Aspergillus nidulans

<400>    5821

gagagtagcc tacccccccc ttatgaattt ttattacccc caccaaaaat tcgggttttg   60

gggctagggg ccgccaagaa gattttaaag ctctccggac aactctcctt caaaggaggc  120

tgggttcact tgggtgcggg gggctcgtaa acaggaaggt agcggttccg gcgtaagaat  180

cacctagccg gtttctgctc taaaggacgg ctctttgcgc atgctcaagc aggacatggc  240

ttgtttcctt ctgtcatccg cctctgtcgt agaatgacaa gcctgctgct agcatgaact  300

gggcccgtca tctccctcca tggcatgctc gcagcctcta cattctttgc gtgtcggtaa  360

acgcccacca gtcccagagt atccagccga cagcagtccc aacgcttccc cagcacacga  420

ccgagacagg gcttacccgg ccctggacga tacccgcgaa acagcagacg aaaatagccg  480

ccgaacagac atgttgtacg ataacggtcg agtcggccac catcggccaa aagtcatacg  540

gacgcactcg aggatttcgc tgtaaatggt caagaaacgt ctccgtatcg gtgtagttgt  600

ccggatctgt tcctctatca gcatgagcgg cggcatgaca gacgccaatt catattatgc  660

gtacatgact gtttaaccca aagcaatttt ttccaagcac cctttcgctt cttacgggca  720

cctgttcgcg gttttcggtt ctcttttcga gtgacagccc cggggactgc tggcggcggt  780

cgcaaggctg caacggacgc ggcagtagca gcggcagcag tcccgctcag ggaacggatt  840

ggatcttcat aattggagct acccggtcgg attcgaagaa gagaaggtgc gtagtaagcg  900
```

tcttcaggag cgagtcgagt aggatcaggg agagcgcgtt gttctgccgc cggaggcttc 960

agcccccctg ttcggatggg atgggtttcg actgggactg gaggaggaac gggtggcgga 1020

tcgagtcagg caaagaaggc atcgggtcag cctagtcgtt atgctagaag catggcggtt 1080

gtggttgagt ggaataataa aagcagcttg taaactcaga gcatggaggt cagggccgaa 1140

ataaactaat ttgtccatgc gccagagctg gtctagtgcc ttccattttt ggaatggtgt 1200

taattgctta actccttact actgtacgtt atcttataag acatctatac tgattataga 1260

gaaattcgta cggaacagag ttcttctatc gagataggga atgtatctac aactaaaaga 1320

cctaccgtaa aggccagatg ttgcccgtac gcaagcaacg tctcaagcct gccgcacgag 1380

cctgtactta catactttcg ttgcccgcaa aaacgtagta ttcgatcgtg aagcaagctg 1440

gcatgaaaca gtttcgacct cgatattccg atcatctatc ctataaagag cgggcccttt 1500

caaggagcgc tttgttttgc gtcaaagaga gaaattacgg tcatgctagc ccgtgaattc 1560

tcggaagctt tgctttgctt tgattcagac aacagcaaca gctctgggta tcgaccgagt 1620

atagaagggg cctatgtctg cggtacttgc gccaggttca tcgtgaaggt cgactggaga 1680

atgccccttg ttggcgctat tcttctggcg aatcagtcga ttaactccca tactgtagtc 1740

gcttttatca cgcccaatcg atcttcgagc tctcatcact ctagactcca tcaaactgta 1800

gaattcctgg gagccagggt tgcttgcctt tgcatccgat tggcgtcccc tgttgttaga 1860

catgcttgtc ggccccgaag gggctcttag ccaggaggct aggctccttg ctgcgctcct 1920

cgctgttttc ttgctgtgtt ccctgctggt cttactgacg ccactctttt ggaccgcccg 1980

gacaccggtt tgtattcaat gtcttcccta aattgcctta gagtcggaac atccgcggct 2040

cgagctggaa gcccccagtc taccttaagc cggcataagc ttgcgaggag tcatattttc 2100

gataatgacc tcaggaggtg cggaagattc caaggctatt tttgggaaac gagcagcaac 2160

cactgagagc taaaaccagg cgttgatcgg gagatgtgtc aagttcaact tttgccttca 2220

cgatcaaacc cttttacggc tgcttgccat atcggtatct ggaggtgtaa tgagaaattc 2280

tgaggacagg accaccttcc tctccccgcg gcatatttcg agtaccgttt tgagcccggg 2340

atatagctct acaggctctg ttgtttgcct gggctctgcg attatcgatt gtgtgcgtcg 2400

agggctggtt gaattcaggc agtaatattg cttaccgacc gtcgtactgt cgacgatcgc 2460

tctcggcctg agcttcgcgc gttcttcttt gctttcagtg tccaacgtga gatcgtatcg 2520

```
gtcagatttc tatgcaactg aggaaatgtt agtcggacgg aaacccaagg gaacccaatg 2580

gatgcagtac tgcggtgttt ccatggtgct tcgaactatt ttcccagcta tacgccacca 2640

gtccgcccaa taagtccaga agaatagttg aaaaccgagg gatctccgtt gtattccccg 2700

cgctaaagaa tctagagaat ctcgcggaat gttttattta ttccgaggct tgcgaggaaa 2760

ctcgcaagcc ctcgaatggt ccatcgacct ggcggggcc gcgctggaat caaggtcgat 2820

acatcagtca tgtttgatgt tatacaccca agatcagatg agttttttct gggcagtgta 2880

gaagcgttta ttatcgaaca agaaagaaag aggaataagc ggaaagcatc tgaaaacaag 2940

ccaaccccag aaagattaaa gccagatctc gagggcacag agccctacaa gacggcggcg 3000

tcagtgtcct cctttccatg cgatggccga aagttcctaa gcaattggat agttttgttg 3060

tcctctattt ctaggagcgg gaaaaagaat acacagcgtt tcttgaaata gcaaatgcgg 3120

cgtcatgcaa aaaagcccga aaggtcagtg cagaaaccaa acaataccat gtacctattt 3180

tatacagacg cgtgctcgaa agagagatgt ctttgtagat tctggcccgc agaaaacaaa 3240

atcaagtctg gcgagcgcat gcacggcagg atcacaccaa gatgcataga atatcaacat 3300

gattaacggg tatcaaacgc tcgatatcgg ttcggagacg gccggtggtt gccgcctaag 3360

ctcatcaaat ctatgtttag agcccttgag caggcacgtg ctcatcaata ctgttccggc 3420

ggccccagtt aactggcttt cttcgtagaa acgcgccgac tgcgccgatg tagccctcat 3480

ggcggagaaa gtatgcctgc ttttcgcctt tggaccagaa acggatagcg taggataatg 3540

tgttcatagt ttgtcggtgt cctcgaatga acgagccacc gaagtagatg tgcttgacct 3600

ggtgcttttc ggactgcaag tatgcgattt gtccaatatt attactgaga cggttagtgg 3660

gcgatcatac tgtaaggatg gacgctctta ccttatggcg tatagtaggc ttctgctcat 3720

atcttcgtgc ttaaatatcg gctcgtcggc cttttggcga gacccgtcct gcggtgcctc 3780

cccatcgctc gccacccgct cgcggttctg tagccggaag accttcccaa atgtgctggc 3840

gatgaccgtg ctcttgagac ctatcattcc gtagtccatc ccgtagatgt cgccaactaa 3900

catgtccacg ccgctgttat cccctcggtc cgccattgct agcatgtcgt caaaagttcg 3960

ggcgccagtc aataatgaca tgatgcccca gaatgttcca ccacccaggt gcgttccgcc 4020

aacaaacaaa aactgttttg gccccgacac ttt                        4053


<210>    5822
```

12025

```
tcgtgccatc gtgccgacgc ccgcgttgtt gatgagaact gggggatcgc catgctctgc   60

gcggatcttc tctgcgactt cggcgatgct ggcggacgaa gtgatatcgg ccttgaagaa  120

tgcggtgccg gatgctgcat ccagtcagtc aataggtgaa cgaagttctg aacttgtttt  180

ctttccacgt acgcagcgta aaagagggtt cttgaatatc aagaattacc acgcgaacgt  240

tcgccttggc tagatcaagg accatctgct tgccgatgcc gctgcagccg cctgtgagaa  300

ggaccagttc gcgttcatgg tcaaacctgt cgcgttcgcc gttgttcatt gaccaattgg  360

tcagtattcg gtttgtctgg cgcaggaagg caagcgccag cagaaccaag agcgctttcg  420

gagcgagggg atgcagcacg acatcctgga cggacggtgg aagctgctcg acgataggct  480

gcagccattg tccaaggaca agagacagat gcgagaggga tagcgacatg gcaggcaaag  540

cgggcaaggc agatgcgaaa actaggaaga gtaatcaggt ggcatgacta gattgcatga  600

tcacaatatt aaatatccag cttggacctt gatcgccatc ggacgaccga accgaggcat  660

tcgcatgggg ttcccaggga tgtgagggtc ttgttgttga ggcgaaaata tggggaagct  720

gtggtgggtt ttccgctttg ggaaacactt gcgaactggc gatgggcgat cgcctccagt  780

aagtccagtg actttagtct tccagaaagc acggcagctt cacatgaagt gcacgggctc  840

aactttatct cctctcaact ccgcaaccac gggcttgcat cttacatcat tcaaccatta  900

tctggcagcc tgttcccgct agatactcac tgactcagag tacgcatata tcaacctcgg  960

ttgcctcgtc acgggctacg gtatcgatca acagattgaa atgaacgacc gaagatgatt 1020

cctatgctcg cagccacgct tgcggaggcc ttcatcctgc agcgctctgt tttcacagat 1080

accccgttgc ggactgttgt tttcggctca gcagctgtta atctgcttat cctagcgatc 1140

tacaatgtct ggatatggcc attcttcctc gatcccctgc ggcatcttcc tcgcgccccc 1200

gtaagtgttg gcaggtgctc tacaccagtg aacaatgacg cgtaaactaa ctcgcgccag 1260

gggaggttca acatgctccg gttcatcttc gataaccctc gcggtagact tcctttgcta 1320

tggatgaaaa cagtacccaa tgatggtctt atctacttcc gggatctctt gaaccgaacc 1380

cagctcctgg cgacaaacca ccaggcgctt cttgatgtca tgagcacgaa tacctacgat 1440
```

```
ttcgagaagc cctggcgggc gcgcgagttc ctggcccgta tcatcgggtt tggtctgata 1500

ttgtctgagg gggcggcgca caaaaggcag cgccgtgcgc tgacgccctt cttcactatc 1560

aagaacgtcc gtgccctcta cacattaatg tgggacaaaa caaaccagct tcttgtggag 1620

atggacaagc aaatcagtcg gtgtccgatg gaagggacta gtccggacag cggctggggc 1680

aaggtcgaaa tgagtgtttg ggcgaggtat ttcaccctca ggtaaaacac tggatagcag 1740

ctaactgaac agtcgtctta ctttggatgt tattggcccc gcggccatgg gacgagactt 1800

tcggtctctt cagaacgctg aaaataaggt cgctgatagc ttcctcgcta ttctagagcc 1860

gaccaaagaa aaaatcgctt tcctagcgat taacttcctc ctaccgcagt ggttcgctaa 1920

gaaactccca tggcgtctga accaggtgat tgaagagcaa gttggttatc ttcgtgatct 1980

ctgtaaggag atcgtccatg aaaagagagc cgccatcaca gccaccaagg tcacggcctc 2040

tgaactcgag gctgacattc tcggctccat gatgcttagc ggtgacttta cggacgacga 2100

gctggttgat caaatgctca ccttccttgc agttggtgta cgtcctttcc atcccatact 2160

ttagtgctag cgctaataac agtagcacga aacaaccgcc agcgccctaa cctggacctg 2220

ctaccttctt actctccacc cagaggtcca ggaccgtctt cgggctgaaa tccgcaccgc 2280

tattccccat tccacccatc cggttacaca ttctgacctc gaatctcttc ccctccttaa 2340

tggcgtttgc caggaagtac tccgccttta ccccacggtg ccttccacaa tccgggaagc 2400

agtccgtgac acgaccgtgg ccggaaagca tgttcccaag ggaacaaaga tcatgttatg 2460

cccgtacgca atcaaccggg cacctgagtt ttggggggcc gacggcgacg cgttccgtcc 2520

tgagcggtgg atcgatacag atcccgtaac tggaaagacg agcgtgaaca accacggcgg 2580

agcagcaaca aactacgcgc agattacgtt cctgcacggg cagcgtagct gtattgggaa 2640

ggactttgcg cgtgcggaac tgaggtgtgc ggttgcaggg ttggttttga ggtacccagt 2700

ttgccatgct agatccctaa gcaggtgatc catatctatg atgctgtgac cacgaagcca 2760

gttgagggaa tgcatttgcg gataagaagg gtgaagggat ggtgattcgg atgtatggta 2820

tgggagcagt cataagttgt atgtattgca gacgattgac gacgtatatg caaatggaag 2880

atacctatac tggatgttgg ggcatgtcca acgcacattc tggccatcat gaagagtgcc 2940

agaaactcca ccggataggc accggtatcg atatcaacga ctccggaatc atactatacc 3000

taaaaaacca cggtgctgta tgatatcccc accaaatgat ataggccgcg tccaagctcc 3060
```

```
atataccggc ccttgtgagc gccgaagcgg gtaggatgcg ctcaagggta tgagttgata 3120

ctgcttcctg cgcagcaatg aaaaaaggca agaggatgaa gaagaccatc atcatgaaaa 3180

cggcattggc gtctctgata acagcatacg tccccgcgga gtgtacgagg ccggaaagta 3240

tgaacgagag agatcccact agaaatctgc gcagagaagc tggggtacgt tgcggaatga 3300

gaactgtgga cgtgctgacc aacgcacgac ggcacaggtc atgccataac ttgccccata 3360

tgtctaagaa aactgtcaga atttgttatt ccgaggatgg tagggtaaat acctttcagt 3420

cggggccaaa gaatataccg ccacgaaccg aaaatggatg ggtacatcca cggatctgca 3480

gccagcctcg gcgaaacgac gtacagaccg cctacggcga gcaatgcgat agcggccctg 3540

atgccatcga caaatccgta gcaggctacc cagcacgcgg gaggcagcag aaatcggcgg 3600

ataaactctt cgcttgtctc tggggagatg tggtattgga agccaaggtg atttaattca 3660

aaatgctgga gtctgtctga gttgaccagg gcctgaaaat tcgcgcagag ctgagtatag 3720

ttccttccaa accatgtcct gtagacatca aaggcaaagt aggctacgaa aagcttgata 3780

gcctcttttg tgagaaatga gacgcggtcc tgagacgcat gcctcaggat aaatctctcg 3840

cctttgttga ttggatcacc tctctgcttc ggctgcggcc cattcctgtt tggtgttgta 3900

gatgtggcgc tcagcttctc cagttcaggc agatacttct tcgacccgtg tgcccacccg 3960

attcctcttg ggttgaggag caggtcgcat atccatagta gccgtgttaa gctcaacgcc 4020

ggtggcatcg gctcccagac atatatcgaa gatgaggtgg aatcatgcac tttcactagt 4080

cttttcaaat gtcctggctg attgacaatg agcagctcaa tggcgcgaag agcaaaagca 4140

accgagagaa acgcgtttcc ataagtgacg atggtcaggc ctgaattggg cgggtaaaga 4200

actgaagtga tcacgctaga tgcgatgatg gtaaagaaca cgctctttt caagcgcaaa 4260

gagagttgga tcttctcgtc ggcgaaaaga aacaccccga ccacaaagta tggtggacat 4320

ctccctctat gagaaaagaa gagaaaagat ttggtcactc tggcctgaat tccgagagac 4380

gaacgaggag agacatgccg aaggattggc caaggcccag attgttagtg tctgtcagcc 4440

agaacacaat cgcatgtcct actccatggg tgagagaact caagcaattc taatttgaaa 4500

aagaaaacgg cctgaatcca gaggacatag tcaccgtgtc ccgtgcatac caggtgtttc 4560

ctcaccaagg agaagatgag ctggtcccat cggccagttc tagacactga tatgaactga 4620

tcattatggt cacggagaac actgaggtgt ctctgccgc agctatcatt gattgtatca 4680
```

```
acaccctctg caacatggtt gagaatcgcg acaattcgat ccatgttggg acctcttcta 4740

caaaggatca gggcggcttc gaggaatgga gcacaacgtt cagcaggtgc aaatcgaaga 4800

ccttccagca gaacctggaa aattggttcc atgagaccag catctggctc tgcatccata 4860

agaagaccaa aaatgttcct gcatgcttgt gggttgttgt actgggtaag gatcttcttc 4920

aaaatgacta gctccctgcg ctgtcccaaa ggcctaatga ggtcgtgttc cgtcaacgtt 4980

agtgaaaacc tctcatttgg aagcgcttgt cgttcatctt ccgagaccgg ccgagcggta 5040

aaatcaattt tcgcaagtaa ctcggacaag aggtccataa gcttccgatg cgaaaatctc 5100

ctgccctttt cgagcagctt atagtaggta gggtattgac gctttagcct catagagtcc 5160

tcagaatcca gccataagat ctctaagcat ttaagaagaa acccatgttc gaggattact 5220

ccgacttctt ggctgccgaa actcgccagc gagcataaga gctcaaagta atcgtcccat 5280

gggcgactaa cactgtgcaa cgtcggccac atgccatcga gggtagcaat aacaaactca 5340

agaccatcta ggtagacagc attccacttc tccctctcaa agcttccatc ttcggttgtt 5400

atgacattct ctcgaagcct cgccagggcg tgtacaatga acctgactga cccgttgcgg 5460

atttgtggat gacactcttt agaagatgag ga                                5492


<210>      5823
<211>      10455
<212>      DNA
<213>      Aspergillus nidulans

<223>      unsure at all n locations
<400>      5823

ctaaatcccc aaccctcctt cactctcttt cctctctttc ttggccatcc tcgtcctttc    60

gttctctttc atcctcgaca ttccttctcg aagcaggtag tcagtttcac tctttcaact   120

gctcaccttg ctgtccattc tttctccaaa cctgacccgg gccccgtttc tcgctatcga   180

gaaaacaacc gacgacagac gaatcccacg atccactacc gaccgatata ttccctcttt   240

ctaaataaac caataatcac ggagtgcctg aagtagttat cagaattgat cacaacttgc   300

tgaaacatcg accctgtttc attccaagcg tgcattccga acgtggctac agcaacatcg   360

tcgatcattg aacctacctc atcacacgca gaacggcacc attcccatac acacaattcc   420

atcactgctt tgagcacaaa acttggaact tttggaaccc ttcgcaaaaa tgaaccaaat   480

aatgcaccaa ttttttgcga gggatgacgc caaggatgac ggcttatctg agtccatggt   540
```

```
cgatctgctg atctcgctgt tggttcttgt cctgctgggt attgtcctga tttgcaccct   600

cctcgttctt cgacgcaggc ggttgaatcg gcagcagtcc gaattacccg tacataatgg   660

tcaatgctcg acgcatcatc gcagcgtcac catctctgcg ccgccatacg caaaaaccga   720

gtctgtgttt gttatcgatg agaagcgcaa cctgatggag aactcgtcca gcccaccacc   780

cagccccgta cccgagatcc gcatcacatt tcctgaggaa gaggatgagt ctggaaagcg   840

caagtccggc agagttgtgg tagtaaggat aagtgaagcc ggtagcgttg gccttgagcc   900

gtacaatgac caacttccac catatcagtc aaccgatgca gaccgcttcc agtccctgga   960

catcgaacga atgggtggat tgaaagagaa ggatgacacg aagcgctggg gataagtcta   1020

acaaccagca aaccccaccc gccatagccc aacagttgcg tcacttgact atgttcatct   1080

tccttcttca aacttccatg atcagcgcta agcacgactc caccccgaca aaattctgct   1140

tcgttcttgt tgtatatccc gccctcctgt ccaccgtgc atatgcgact cgcaatccgc    1200

agcatccagc tcgattactt catattaaaa ccagctttgc ctgaacgccc tcatccccct   1260

ttctgtttgc ctggttgcgg gtgccggctc cagtaactag tgaggcggac ggacattcga   1320

gttgcctcgt cgaatattgt gggatctggc ttttactatt ttgattttac cttcggcgtt   1380

cgattctcgt gctttgtcac tcgtcctctc cgccctgcca cgtccctagg gttggagaga   1440

ggttacgttc tgctttccgt tgaggctttc ttaccattct tctacgctgc tcacccagtg   1500

ttcttctac tatttttgt cactactta cccttacctt ctcggtctcc ttaccggtga     1560

cttgcagctg gataatgtat gtacttagtc aaagctttac attggacggc cgccctgcag   1620

gcgtgagcgt cgatgaatgt atctactggc cttcgagggc tatatgatat cgcattgtcg   1680

ccatctcatc tatcacctttt tcgcaatcta ggcccagcct tactataggg aggtctaaac   1740

agttgtccgt ttaggggaat gacccactgg cgcagggttt tctgatgatc cgtgccgccc   1800

ccaccagtag gaacgcgcca attcgtagaa tgagatgccg aaagcgccga ctcccccacg   1860

tcacggtcag gattaattgg cgcctttta gctgccaggt gggaagtgct tgtggccttt     1920

gtccacagtc cacacctgaa tgtttgcaat tgcgcagcgc cagcccctat tcctttccgt   1980

gtccaagtag cacccggtgt atctgatgga gctgcagcta ggctcataag ctcaccaatc   2040

ttctgaacgc acgcacgaag aagagcccga gcatctgcag ctcctgaaca tacaacccca   2100

acctttggaa gggagaaatc ccgagaggga tcaagttcaa cattgcgtcc gcttgggtga   2160
```

12030

```
ctcaagtcat ttataccttc cagaagccct aaccttgata tagccttata agccgcatat    2220

tcctggtgga gaatcgagtt tgacctgccg agtccgatac ctccgcgcct tcaaatctcc    2280

aagttgggga gaccacacga tataagcttc gaaaggtcat ctttcatcgg taactgcaac    2340

gatgagctcg cgcaatgata gctctaccgc cgatgcgttc aacaaacccg ggctcttgaa    2400

ttcgtcaccc gggccttccg accctcccag aacacagagc gcaaagatgt tgtctcacat    2460

gcagtctcgt acggcgaata agagcagatt aaaggatgac catgtggaaa agctggaacg    2520

ggagttcaaa tataagcacc tgagtctgct tggtgtgttt gtctggatat tgtgagcatc    2580

ccaggtggtt gtttgatttt cagagagggc cgtaatctaa ctactggtta tttgactaga    2640

ctcttacatg ttgtcggtat ctttttttc accaaaggct ttctcctcac tagaatggtg    2700

ttggaaaata agtcgtcctg tgatgatctt cctttcgacg actcgcgctc tgtaccgaat    2760

cagtcaaacc gtgaaggatg ctggcaccca aaatcattcg acaaggccat tgttattata    2820

atcgatgctt tgcgctacga ttttacagtt ccgtttgcgc caaatgccga atctgagagc    2880

gcccagctct tccacgacaa catcccagtg ctctatgaaa cagccgtcaa ctcgccgcaa    2940

aatgctttcc tccttccctt cattgcggac ccaccaacta ctactttgca gcggttgaag    3000

ggattgacaa cagggacgtt gcctacgttt gtcgatgcgg gatccaattt tgccggcaca    3060

gcaattgacg aagacaacat cgttgctcag ctccacgcgg cagggaaaag cattgtgcag    3120

cttggcgacg atacctggca agcccttttc ccagattatt tcaatgccga ccttacccgg    3180

ccgtttgatt cattcaatgt atgggacttg catactgttg acaatggagt caatgaaaac    3240

ctattccctc tcttggaacc tcagaattat acgaagtggg acgtgatttt tggtcactac    3300

ctcggggtcg accacgctgg tcaccgatat ggcccgagtc atcctgctat ggcagcaaaa    3360

ctgagtcaga tggaccaagt tatccgggac ctcattgata gaatcgacga tactacgcta    3420

ctggtcgtga tgggtgatca tggaatggac tcaaaaggcg accacggcgg cgaatctgat    3480

gacgaagttg atgctgcatt atggatgtat tctaagaaag gggttttgg acgtaccagc     3540

caggaaacaa ttatgccacc aaagtacgct cgcgaaagat ttgttcccca gatcgacctt    3600

gttccgaccc tctcattgct tatggggctt cccattcctt ttaacaacct gggctcgcca    3660

atcgaggaag cgttcattgg cactagtgga agtgactggg aaaatctggt aaatgtgaat    3720

cgcctatctt ccgcgcagat caagcgatat cagcaagcat atgccagaaa ccgcgggtca    3780
```

12031

```
gaagacagtg ggaattctgg atcaatggaa tattgggaaa cggcggaaag gcagtggcaa    3840

gctcatcatg gtagacccaa cccgaagagc ttcgtctcaa tcaatgaggc atacaagcag    3900

tatcaacggc ataccctcca agcctgccgc agactatggg caagttttga tgtgccaagc    3960

atgatgcaag gaattggagt actccttgca ggcattgttt tacttgtttt ctatgctcgt    4020

ggagtgcagt ctgaccgaac gctacttaca ggcccgttac tttcccgcgt gggactagga    4080

tccatcctgg gcgctttggt tggcacccta atggccattc ttgggttgac tgagataaaa    4140

gtgcttgagt tatcggctct actggctgcc gtcgggagca tctgtggcgc ttcggtcgca    4200

atcttcggta gctcacagcg cttatcgctg cctttaccga actcactttg gggttggctt    4260

gccattctat tcaccgtcag tcagtctatt ggcttcgcat ccaattctta tacgatttgg    4320

gaggatgaga tcttactatt ctttctttct acgttcggag ttgttgccgg cgtctcttcc    4380

atgcgccaac agtcaacaac ggacagggtt ctcggggtct accattcaat cgtgttcgtc    4440

atattaggaa ggatagcatc tctatctcgc ctttgccgtg aggagcaaat gccattctgc    4500

cgctcgactt actatgcctc tagcacatct tcaacctccg ctccgtggca gctgactatt    4560

ccattcctcg tgacgctcat cttgccaaca gtcatcaaag gtttctatgc cggatcgaag    4620

tcctatgaag gagcggccag tctgtggatt ggtattggtt ccgtctagg actgtttgtc    4680

acctcaatct tctgggtcct ggaggaaatc gacagcaaag aatggctacc tctcagcgat    4740

gaaagtctga agacagtcag ggtattctta gcccagcttg tcctcggcct tgcttttgct    4800

gctggcacaa cggctttcac gtactcaaaa ccgtgcgtga gcatcagcgt ggcacaaaca    4860

aatacagagc ccgaaccgaa gcgtccctcg ctcggcgaac aacaactccc aagaactacg    4920

gtcacaatcc ttggcttcgg caacgttcat ggcacccgct tcttcttcct cgcaatcaat    4980

ttttgtctag ccatcaccct catgcagaag cccatgggcc aaggcgccat gggcctcctc    5040

ctctggcaaa tcctttctct tcttgaaatc cttgacacaa acgctctcgt caccaacaac    5100

tcctccatcg gccctgtcgt cctcggcctc ctcggctcct tttactattt caaaacaggc    5160

caccaggcaa ccattagcag cattcagtgg gaaacggcat tcatcccccт cacaaccgtc    5220

aagtatccct ggtccccgct cctcgtcgtc ctcaacacct ttggcgcgca gattcttacc    5280

gctattgctg tccccttgac cgttttatgg aaacggcccc ttcaactcaa cgataagagc    5340

gcctcctcca cctccgaaaa gccagccctc agactcctct ccgacgttgc tcaggctgcg    5400
```

12032

```
gcgacatata tactttactt tgcgacgatc aacctcgcca cgacaatgtg ggcgggtcat     5460

ctccgccgcc accttatgct ctaccgtgtt ttcagcccgc ggtttatgtt tggtgcaatt     5520

gttctgggtg ttgtagatgt cgtccttatt ctcttctcca ttgctggtgt gcggtggagt     5580

acactcagtg ttggagaaat ttttggttgg tgatctagct agccgcggat tgaaactata     5640

atgacccctt agagggaaag tagaggtgaa atgcaaatca catcgaagat atcaactgcg     5700

tttcttctcc ctgtcccagt ggtccctata tacggccgtg tactacttag tggtttattc     5760

gcattacatc ggaagacacc catctgtgat gctctgtact tttaaaaaga tatttgcatg     5820

tgcttggcta atccttcgtc tactatatat atcaaaatag actgacgcca acaacattca     5880

gataagtttg gctgtcgcag gcgcgggctt ctagccttca tgtacatatt ccagtttcac     5940

aaagtatgaa gttgaatcgc caacccatct acttctttcc tgtcccaata agagaacatt     6000

ctatttgact tcatgcaatt cccatccata tgtgatatga tatcacgtca gaacaagaag     6060

atagaaaatg taggtacgta ggtcgttagg caggagagag aatgaacaaa caagaacaaa     6120

gaaatgagaa aagaacgctg tcatcaagtc atatcaaaac acaaacttttt agtgtccatc     6180

atttccttca tatcataaat ataagtaaca gtcaaccta ctaccgtatc gtaccgcatc      6240

gctcgctcgg tttttgaaac cccgtccaac tcctgtgcag atgtacagta ggtatacatg     6300

gaaatgataa agggagagtg aaaagaaaaa taaaattgtc gataagggcg gtatcggaca     6360

tgcagagttt tattgcatca atccacggtc aagaatgcat gaccgtggtc ttaagtagtg     6420

aaacaagtga ccgctcaggt aatataaagt tggcgggaaa aagagtaacc acatataggc     6480

gacggcggag aagtgtcgat caatggcaca ctcttagttt taggaagata ggtactccgg     6540

tgactgagaa acgtggggtt tgcgcagcat ttcacttagc ccagcgcgaa aagtccagat     6600

tttggagaat attcgagtct gctgtcgcgt tccagtcggt tgagatctcg gattttccgg     6660

agctggtacg gaccggcacc tcttcggaga agatgttggc tttggtgttg cggcgctggg     6720

tagggtatgt ggcatccagt gtatccgcgt tctgagattg tgatcccagt acccgttccc     6780

gtaggcgttt gatctcacgc agtctattgc gccaggatga aatatgctcg ccctgactgt     6840

tccaaacgag ggagaacacc gaagcattga gtgcaagaat gcgcacaaac ggggcgagat     6900

tcttgcccga gatgattttt ggcgacgcag caggggagat ttcaggaaac cctggtttgc     6960

tcattacttt gacgcagtag aacatgttct cagggttcga tgctgctgcg gaagccatct     7020
```

12033

```
tgtctccttg agtgagtcga gagacaggac tgacgacaat gttgaagaaa ttgaactggg   7080

agggtatcgt gttaaaattg aatggagtat tggaacgatt gaaaatgatg ttcacgaagt   7140

cattccctat gtgacttttc ttgaggatgc aggatggatc actgtcgaaa ttggttggca   7200

tcatcgtcgc cacgtggtaa acgatttcgg tgacacggtc acgccatgca tatgtgaatt   7260

ccccatctgt ttccgcgtgc aaaccctgag tgttgaacct cgcttccttg agcgacacct   7320

ttgtaccgag ttgcgagaga aaatactcgt aatcaggact gccaacagtg ttcgagagga   7380

tttctgcctc tgtggtctga ccgtcgtcaa tataaatgac accgatcttg tggccatcca   7440

cgatatcatt gcgatcaaat gtgcttaggg cgcggcgcgt gatgtcgtca tccggtagtg   7500

gtataggctg gattgtagtg ggcgtgggga aagccgttgc cgtcagttga agcattatgt   7560

gactgggaag gacattggtg tgcatgctgt ccgaatgcag atgagcatcg tgggaaatcg   7620

ggatttgatg aggcaggata ggagcagtac gctgttgata cattgcataa gttgttcctg   7680

atgcttgtct tttggtgatt tgtgtcaacc cagaaacacc ggcagtctcc agagtgacta   7740

tgctcatgcc cacaatccag gatcttttta taaccggccc atcttcagga gacgggggga   7800

atgtggcata ggggatagtc tcacccaaat ccgagaaagc gaccctttgc attaaatcaa   7860

ggaatacttg gctttgctct tccagagtct ctttcccatg ctcatccgtg aaaatgagtc   7920

tgctagttat ccagttgata tgtttcgccc gatcttgtag tttcaacgac aggaaccaga   7980

agatcatgac gtggtgtgtc gaggtataaa tgtatgtaga catagcatct tgagtggacg   8040

gctcggacat ttcgttgccg ggcaaagctg cagtctcacc aacaacactc ccggttcttg   8100

cagcgccttg ggggttcctg ttcggtgctt cggtggcctt gagtctatgc tctcgggagg   8160

tctgcaagag tcgaatgcat attccaaaga cggtgcggat ttcctcttca cgcaggttga   8220

tgtagacttc gggcagtcgt gcaagaagcg ccaagaactc caatatatgg acagccagat   8280

tggacagcgt aatgagcttg gagattttgt caagaattcc attcaaagcc ttggtgactg   8340

agagcggaat tcatgacag caaacggaga gtgcatgtat acaaccccgg gaagtgcctc   8400

cccaagaccc aatgatgccc atcataaatg agcgaacaag ttcatcctcc tcactctttg   8460

caaagtgctc gtgatagctt atcaacacgc agagagaatc aaagatatag ccagccacgt   8520

cagacttttt cacgccggta tatatcgggg gttcacggaa agagtcattt ttgatctgat   8580

cgcacagaat gctgcgtaga cgttgatttg agggacagcg ttgtcaaata aatctttgtt   8640
```

```
ctgaagttga ggtgccaggt gggtaagaac gtagctgtaa atgtcccagt tcgtctcccg    8700

ctgaagtaga ataatgatcg tttcaagcca tacattcgct ttcaatgcga tcctttgagc    8760

tggctccgaa tctaattgtg gcgatgtgtt tggtgtcgca cgggcatata aaaacggact    8820

ggatccatcc ggaggctcct ccggcaaaac ctgcggcgcg gcatatgccc atacaggatg    8880

agacagcttc ggtacacgct gattatagtt tgtgatacgt ccggtagacc tagacagagc    8940

actggaggat gttgcacggg tcggatgcct tttttgagtt gaagacaggc ctggatcatt    9000

atctgcaatg taatctccag tagcgtcttc gagatcgttc gtaagagaac caacttcaag    9060

gttgcggcca gatatgctca ttctaaagtc atcctcgggc accgagataa cgattatgga    9120

gcctgaagaa tcgcatcgaa gcctaaaaag cattttgagt gcagtcaagc gcgagtctag    9180

aggtcggtcc gaagattctg ctatcttcaa cagcgcttcg taaacttta ttgccttggc    9240

tgctgataga ttcagtgacc ttaggaacgt tctcactagg ccaagagcgc agacattcgc    9300

taaagaggcc tctaacgcga agctcaaaga gcggccttcc ggcggggaga cttgaactgg    9360

ctctgattct cctgggttcg aatccttggc cattggcgag ctgatgatat ctatcaagga    9420

tttgaaagca gtatcatcac atgagggaac gatattatcg acgaggaagg acactaaaga    9480

ctccaggaat agaatgctat cttcattact gaagtcctcg agcattagat ccagaagccg    9540

ctctttatga aagagaacca tggactcata gccatggaag gcctccttca aaatttccag    9600

ggccgtgatt cgaacttcag ttggcttgct acggtcacgg acgaagtagt taatcacttg    9660

ctgacagcat tgaacccatc ctgaggtctg gggatcgcaa agcttctcag tcctcatggt    9720

gtttagaatc agttcagctt gagttggctc aatgtgctgg caaacgttgg ataagaagtt    9780

tgtgatttcc agtctctgct gtccattcaa gctgtgccat aaagatccaa cagcggacgc    9840

gatttgaaca atattggcca agatattagg cttgacatca ttgatgacac tacccctga    9900

ctgaggtgaa tctgggctga gtggttttgt agcactgtat tcaggttccc caacaacctt    9960

tctagaacag aaattgagga tactgtcata agcctgtcca gtcttgtgtt agagtaactt   10020

gagcgacctc tccctccaaa gtgttcaaac atagctccaa aaatatctgc ctctaatcgg   10080

ccatcattct tttggaggac cacttgaagg gagttcatca gaggtgcgca ctgcagttgt   10140

gctatacctt cctggccatg tgcacggata aggtcagcga aaacgtactc tgcgccgcgc   10200

aaaacgttaa gattctgaca gttttccccg tttgactcga gcaaaaatga gtgaagggta   10260
```

12035

```
gccaccattt cgtgttttct tatagacttt gccaaatttc gaacagccct tgatgtaggg 10320

cctgacaggg atcacccca cgcattataa tacccctcg ctcaagcatg ggagtaaaac 10380

ttccaacaaa acacatttcc atataggata actgcatcaa aaacggcccc nccgtgtttg 10440

atatgaacag caaca                                                  10455


<210>      5824
<211>      8962
<212>      DNA
<213>      Aspergillus nidulans

<400>      5824

gttacggccg gaacataaca tttcttccag ccacggtaac gcctatgata atgtcgtcgc    60

ctgcatctgt atattggctc atgaggaggg accaggcggc ccgaatgaga gtggaggttg   120

tgattcctga tgactgacta gtggccgtga ggctgaactc gtgctgatga atgttgttga   180

cacgaggttt gtatgtctga tagggcaatt gcgggaactt ggggggattt gacgaggaca   240

gataggattc ccaaaaggca tatgtggcct cagcatccat gtctcgaaga tgggcaataa   300

atctgttgaa aggggcaaca tgtggttgat gtgagagtcc actgcccttg tacgcctcct   360

ctactcgttt ccacagaagc ggcagagacc atccatcata cagggcatga tgagcagtcc   420

agataaatgt cgataatgag ccgcccgggg tgcctggaac gagagcgtac ctggccagtg   480

gctctccata tagcattgtc tgctgcgcat ctgatttcaa gtactcttcc acgctggctg   540

gatatttcca gtcgatggaa gacggcttga tcacaacctg atatgtgctc gcagtgtcgg   600

taggaagcag ggtggtgcgc aagatctcgg tggtgttgac gacagactcc caggcagcac   660

agaacttggc caggtcaata tccgctggca gctcgtagac gttctggtag atgtaagtac   720

cgggctctcc ctgggtaatt gccataagac cttcttgtaa ggcggttgca ggatacgcat   780

cctcaatgct tgaccggtcc aggccccatt tcagagtgag ctggtcgatg aattcgaagg   840

cattctcaac atcaatgagt gaaaatggct taattgaccc aatctcagta tgtgacagct   900

ctacggcgat ttgagacatg gcttcaagtg taggatggcc gaagatcttc gccacggtca   960

ggctcattcc tgtagaccgc gcggcggcgg aaagcttcat agctgagatc gaatcccctc  1020

ccagccggaa gaagttatcg tttaacccaa aactctcgta tgggatcttg agcacctggg  1080

accagagact tgctacagcc tttcagtttt ctgtgacagg ctcgcgcttg gccgtattgg  1140
```

```
tgcttcccgc gagagagaac gagacaaggt cctctgtgga aaagcctgca gccaagtcct 1200

tgagtcgtcg ccgatccagt ttgccatggg cagtagttgg catatgcgcc atggggacaa 1260

acactgaggg ggtcatgtag gccggaagat gtagaccgag gtcctccttg agttggcgga 1320

gctgctgtcg tcgcccttca gatatatagc ctagcagctc agtttcatcg ttctcgtcgt 1380

cttcaaactg aatgaacgcg cccaatatcg actgatcatt ataccctttg ggcttaatga 1440

cttcagccac cacggcctgc caaccagcgt ttaaaaggct cttgatattg aattcgactt 1500

cctccagctc gatacgttga ccgtttatct tcacctgtgt atctttccgg ccgacgatgt 1560

tgaaggttcc atcgggactg agaaacccca gatcagctga acggtagaag cgacgggcag 1620

ggctagcttt aggtagccag tctgggttcc ctacaaaggc agcattggtt ttctcttcat 1680

catgaaggta gccgcgcgcc aaacccggtc cttcaattag gacttctccg accgctccaa 1740

tcgggcatag ttgattgggg ttcattggat tcgtgatcca ttgtcgtgct ccaagagcat 1800

ggccgatatt agaggcagga gtggcagggc tcaacgcggc acgaccggcg cagagaattg 1860

tggtttcagc gggaccgtac atgttgttca actggacgtg atccgcccag gcttgaatta 1920

tatcttgttt catgggttca cctccggtgg agatggttct cactgagggg acgtttgctg 1980

gggtcatcat gttcagaacg gtgggggtta gaagggccca gtttacttcc aggcggcgga 2040

tgaagccctc aaggtcatcc agtcgttctt cttcggaagg cacgcagacg cacccaccgt 2100

gcatcagagt gttaaaaatt tctccgacgc tgaggtcgaa agtataggtc gcaaactgaa 2160

gagccctcgt agagctgtcc aggcgcatga tcgtgccgtg accgatcata cttgaaacca 2220

aagcgcgatg ctccactaca attcccttgg gctccccggt acttcctgaa gtgaagacaa 2280

cgacagccgg ggtttcaggg cgagcagccc ggacgaggcg tgttgcgcga cgctcagcgg 2340

caagctggtc tagcaagtct tgcgtgacct cgacggagtg tttgactagg ccgggaaaag 2400

ttccggcgta gccaggcccg gtcaatatga cctgcgcatt gattttgctg agaatgactg 2460

cttggcgttt aacaggatgg gccggattga gagcgacgta agcaccgcca gctttgaaga 2520

ccgccaacat ggccacaatc ggcaacgtgg atttctcgaa gcagagtgca acgtacgaat 2580

ccgcgccgac tcccagttcc tggaggtatg cagccagatt atcagcctgc atgttgagtt 2640

gctggtaggt catatcgcct ccagagcctg cgactgcaag cgcatgaggc tgttcgagtg 2700

ccttgcgctc aatgcgcgtg tgcacacagt cactgatagt aactggcaca tatgcattcc 2760
```

```
agtcgaaaat cgattcccta tcttccttac tgcaaaggtc gatctgggtg acaggggtcg 2820

agccacggtt cacaaccgcc tgcagactcc tctccaatga gcctgcaatg ctctgcgcat 2880

agacggacga cagagcagaa gcattatact cgagggaaat tcgcaccgag attgggctga 2940

cttgtgcgac cacctcaatt gcgcgctgcg ccattgttag cctttgtcat tcaattcagg 3000

ttcagcggat ctcacattgt gccttggccc cgatagagac agagacgtac tgggtgagct 3060

aatatgcttc acccttaatc cagtatctgg aaccacatgc aagagctgtt ccagctccgc 3120

taacggtata tcctggtgcg taaatgaagt ctcgtgccac tgctgaagct gttctaatag 3180

ctcatgcagc gtagtagcgc cctgcgacca actcgcacta caaacgccgt gcttcgcctc 3240

atcgccattt tccaggcagc tggcgaaagt tgcagtgtct gtcgcaagga accgacccag 3300

aaccgtggcc cacgcggcct ggagaattac caggagcgat gtccggtgcc actcgcaaaa 3360

tgcgcccagt ctctgcagct cgatgctggg gttgagggga tagctcctcc actgtgcttg 3420

tccttcgtac gaacgggtga gatgggagag gcgactgatt tccatccctg ctgtgtttct 3480

cttcacaaaa gttccgcaga tgagtctgcg ggcgctgatg gcaggcatta tgattatggt 3540

tatagtgtat caagtatgac ctgcgtattt gagtatgtta gttgtccgtt aagaatatcg 3600

tacctttct tctcctctct tcttcttgtc tagaagttca tagtcgcaac gacaggaagt 3660

gtagtcagtt gaagccgttt ggatctggag tgaagtcaag ttgaatcggc ctgtcgccaa 3720

ataaattccg ccaaagctag cccaaagctg tatgggactc agccatccaa gctatgccaa 3780

caatctcgaa ttcaggtctt ggtccctgta cgcggtgtga tattattcat gttactgctt 3840

agcaattact tttagcaatt taagccccca cagcagctga cagtgattga ttgtctcaac 3900

gtttctagta caataccgga aatttcggaa atttcaacaa agtatattag actctcgggt 3960

aggagatgga ttggcctgtc gggtaatcgt cgatcaggct gggacatgct agtgcctgag 4020

cgcacctcag cttacagctc cctagattaa tcacctatgc agctaaggct tttggccccc 4080

tttgcacgtg ggtcccgacg gagaattatg catctggcgc tactgcagga gtggagtcca 4140

acgtgcagtc ttgatgtcaa agtacacctg tatgatgtat tatacgtctt ttcggtattg 4200

taacgccacc ttaccgctag taccgttccc gttgtatcga gcatacacac actctgtaaa 4260

tcgtatatcc aactggagac atcctcttcc atcctcactg aagcctatcc gcagccccag 4320

agttcagcta agtgaccatc tagattctga agccgatatt agttgcacca gccccaccaa 4380
```

12038

```
cgagcttccg ccacgcactg tacacagcct atctgtctca gaggcctccc caacccccgt 4440

ggtccgcagg ttgcctaagg ggggcagcac atggcaaatt gcagccagaa acgtgcagcg 4500

taagacataa aatggggggcc agccatcgag gaggtgtcaa tgatagctgt aattgcagtg 4560

tacaccaatg aaaccagatc cacttatggc tttcctcttc catcaaatct tatgtcttac 4620

ttcaatatgc gtatggcgaa cagaattggc gcgggccgta aatccgcgct tcagctctct 4680

catctcagaa ccagactcac ctcatctgct gcagccgttg ctactgctcc cacacttgat 4740

cctgcgcctg tccctgcccc tgctgctgcg ccgagagaat ggctggtgct ctttccggat 4800

atgcccaatg tggtgagtaa tggctgctgg cctgaccgac cccattactc ccaacatagg 4860

ttcagagcag gacctcgtct gatattgctg tgctgtccta gctggaccgt cgcctcgaaa 4920

tccgcccccg gcactctccc aactttgtgc gtcttcacaa ggaacaatgg gttacctggg 4980

ctggcgagtc ttttccaccc atttagctct cttcctcata ttctgtcttt cttctgttcc 5040

attctttcta ctcctttaac catttcattt ccctgatacc tcagtccctt caatcatcac 5100

ttattcgaag atgttttata tgcagggcct atctttgaga tgcatacctt ccctggaaac 5160

actcgcagcc cttcaagggt ctgagtggca gtcaatgatg tgagcaggag cagatctgga 5220

gcgtctgaga gtgatccgta tattcaggaa cgtatttggg acctggataa tgcacgagtg 5280

attccctttg tcaccaatat gaggcggact ccaaagaagt gattgttttg ttaggttaac 5340

ttagtgaagt gggtgacata cttgtttaaa ataaatcagc tgaacgaaca aggggagaaa 5400

ttatcctctt atttcgatgg tttgtagaag ggatggtgcc agagggatga tagaagtgta 5460

gtggtgatgg tcatcaatgt tcgctgtatc actcatagta actaatagtc acctctgtga 5520

tcaatctcca taaagataaa gccgaacagt gggaacctat cctcttttat atcccacctc 5580

actcctctct catctcccag caaatgcaga tcccctgccc tttcttactt atgaatatat 5640

gtgatgttaa tccttccgcc tccaccggtg tactacgcac caaacaaaaa ttttgttgcc 5700

tgcctgtagg gccatccatc tatccacctg ccatccgttt atcccacttg taccacaatc 5760

cagctcatct catgtcattt atttctgtgt tcgttgcgtt ttgattcatt ttttaaagaa 5820

tcaaaacccca ggcagaccag catcacgtct cacgtctcct tggttttttgt tcttgttctg 5880

gtaatttaac agacaacaga acacccgcaa tccctgcaca aagacccgaa gccacaaagt 5940

aaggtaggcc ctcgccaacc atgacccaaa gagagaccga tccgatacat cagcgagatc 6000
```

12039

```
aaaggcccgt agatcacgtc gcccaccgcg tagatgatgg cgacggtgct gtagagactg 6060

ccgaggttgc aagggttaga cgccttccag aaagacgcga gaaggctcat tatggctggt 6120

tggaagcccg cgccgagggt gtagactatt agacctgtgt ttgggttagc gacgaatgtg 6180

gtaggcgggt gggtgtgtgt gaaatcacag gtggcgtgtg tccctagtga gaggcagggg 6240

agggtcgcag ggccgcacca gccacaattg ctgtgcaagt tctgtctgtc tttctccctc 6300

ttccctcttt gtgttcttct aggtgcatat ttgtagcttg cgcgaaaata cagaaactgg 6360

gaggctcacc aaggattgcc ggggcgacgg tgggggacag cgaaaggatc agaagccctg 6420

cgactatgag ccctaaactg agccgcgcaa ttaatagatc acgctgtcgg ggattacgga 6480

gccccgaact ctgggtgaac aagagcaggg accccacgac gagtaggagc ccaaactcca 6540

ccaccgcccg tagagagaga agcatcgccg actaggtagt atttgcaacc acgtcagact 6600

taatcaactg aaggataaga atggggtaaa agaggggcag ggaagaaagt tgctagaccc 6660

tgcgtacctg ggcgattgac cagccatacc gttgtgaaac gtactgcagg aggaaatcca 6720

gcgactccgc actaacggtc aatatgagaa gactgaatac caggccagcg acgtttcggt 6780

ccgacacgat gctgcggaaa ttctttgcca agcagccacg cagagtcggc tcctcttcct 6840

tgcagccata gatcgacgca tccgagggtc gtgacccctt agcaaagtct agcgtttcgg 6900

gtagtgctat cagcaagacg gtagcaaggg cctgaatgcc tacgcctaga aagcagggag 6960

tccacgcatt gtgggccatc aagacagatg acagggggtt ggcaaggata tcggaaatca 7020

ataccgtagc ctgcaactgg aagtaaattg tggatctttt tcaagcagtg tgcgtcagga 7080

tgtagacctt attgcagtat tgtatgcagc agaaacagaa cagaacacct accttttatc 7140

atctggcacc acatcggcaa tagtggcttc caggactgca gtagcgactg ccgggccacc 7200

ccctaggcat tgaaataaag acgagatcca cgttaattcc aagggccact gcatccagca 7260

cacgagcaac gcccacgcag tcgacagcgc caggcccaga aaacatagta atagaactgg 7320

cctgcggcct ttggaatcgg acaatgctcc gtagggaatg gccagaaaaa tggcttcaga 7380

gggttagaca gttgatctgg caagagtgtg tatgtactgt aagtgaaact gtgatcgaca 7440

taccaggaat cccgtcaaat actgtctgcc aacctatcaa gcgcgcgacc ccggactgga 7500

tctccttcgt cttacattgg gactcgggaa tgttctgcat cggcactggg aggggattgc 7560

cgtgggttcg atagtatgcc tggcagagaa tggactcgaa caggcggatc ttcggcgcgc 7620
```

gaacaaccgt aagaccaatg tccagagtta gagttgccga tgcacatagt agaattactt 7680

gcaagactgc ttttccagac aaggaagtcg ggggtgaaac tgcaccaggt ggatctggga 7740

ttaagggagc gtcttcgcct tcggcttctg cgtcgctggc cagatgctcc agtgagcgac 7800

atgcctcatc tagctcctcg tacctcattg cagtactact tatcgtgtcg catatgtttg 7860

aagtgaatga tcgaagagaa ggtcgctgga agaggaacga aagatgcaag atggttaggg 7920

cccagagtca cgtgttggct cgataatgac taagttcagc actcctgccg ctatctccag 7980

gcactctatc ctcagcccta caccttgccc taacttgccg ctgcgacaag gtccctagcg 8040

gagtctactt taccacagtt gcacggcaag agaaatattg caaatcttgt aatcgtatgc 8100

atttactgtg atttatcgag gacgaaggta tccgctatat ccccttcgat gccaaccaaa 8160

acgcagggac actttcaccg atctcagcag gaactgctgc atccttcctc cagcgccatc 8220

tggtaccagt ttgttatccg cgtctaccgg cagtaacccc ctttcactac tctcaaggtc 8280

ctctgttacg taccgttgca tccactttta ggggctgagc gacgatatat tgccatccca 8340

tattttccg tagtttattc cttggttttg tatcatgtaa ggtacggata caacgggtaa 8400

gattgctgca ctcttagact atggaaagta agacgcatac tgatacgccc ccagcccta 8460

agagcttctc cacaatgatc tgccattcat ctattctaaa ccacgaaact cattttatac 8520

gaagggtcca gccgctgcag tgtgacaggg ccagtggtag cctgaagcca acagatccta 8580

cggctgcttc ctatttgcta gaaaatcgat tcgccaagag tatgggctga ttatgcatgc 8640

ttacatgctt tcgattcatt ggctgcaccg tagaacttgc catatcgaga cagaatgcat 8700

ggagatggcg aactgttagt agtgccatgt acagtagggc cttcttgctc ctgtcgattg 8760

gtccaggtcc caggttgagg ttcttacgga cgagctaatc aggcggaatg ctaggtaact 8820

ataacaggcg tatcactgta gctcccacac aacaatcaag ctatcactaa acaaataaca 8880

gacattacgt acaaattcca acaaatgctc agatattatc cctgattcca ggagtaatct 8940

tctccagctc gtctgaaatc ta   8962

<210>   5825
<211>   13072
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations

12041

<400> 5825

```
ggcactgagt tagcaagcag tccagccatt tcagagcaag gtatcttacg cagggaatat    60

gccgacgcgg tcaccgatcc gcccagtcca ccaatcctcc ttcttttcgg tgcgtttgat   120

gattgtgata atctccccct tcttgaaacc caagtcaccg tcctgatccg cgtcgaatgt   180

gtacagcgca atggcctggt cctcgcgtaa cggagcggcc tgcccagtgc gctgtccgaa   240

aacgggcttg ggtgctgtag gacgactggg tttgcggtca gagtacacat aatcatcatc   300

ataggtgttg ctccgctgtc tattgtaggt atcaaaggtg tcgttgcggc tgctaaatcg   360

ggcggtggag gaacgactca agcctccagc aggacgatca tatatatcgt cagcccacgt   420

cgttgcacgg cgcggccggt cgtggtattc gtagtcatct gaaggtccat ggtatcctgt   480

ccgatcacgt ctgatcccct cgccatatgc ctctcccctg cgaccctccc agaccacatc   540

atcatgacga tcatcgtaga cggggatatc gttgtacata gagtcgccgt ttgtgcgcac   600

gccgtagaaa gcgcgggagt tcagcacacg cattagaggt tcggcggcgg gtggaggcgg   660

gatagtacca ctgaggagct ggcgagcaga tactcggcta ttgtagagtc tctcattggc   720

gtccctacgt tcgaccagca tgcttccttc taagctgaca ccggcgaaaa gtcccttggt   780

tttggaatat gagaatacag cggccacacc cttcgtacta gcagcaccag cggcttcagc   840

gtttcgacca accggcccag cggcaatcga aacattacct cctagcgtaa gggttccggc   900

ttgagagaat gtgcggacgg cggcagcatc gttcaagatg aagacgaaat cggtcaactc   960

aaatccaatc tgacctccaa atccagcacc tgcggttgcg atcgcggacg gcgcggacca  1020

tgatccatca gctagtcgag caacgacgat acccgaacca aatcgaccgg aacccaaaaa  1080

ccctgctttc aggacggtca aaatggcaag accctagaag ccaagcaatc agccataatt  1140

cagctatcag cttcaccgag tatcctttgc gtaccttagc accagctaat acctcagggg  1200

ggatgacctt gtcaggcccg aatgcttgcc gcgggtcaac aaaagatgct aggattttgc  1260

cagccttttt gcattcgcct accgagagaa attgaggatt agcagtcagc tcacgcccaa  1320

gttgtcgcct gtgggtaact gcggggaaat ctggaggcga cgaggactta ctcgatagcg  1380

acgaagggag agggttgtga attccaagag gcatcttgcg cacgctcgcc gggttcttga  1440

gggaatggtt gttgtaaaga ggcgaggaag ctggggaga gtttcgaacg ttgtcgaaac  1500

tgtaatatta tgttcgacgt taggccttgc caaatgggag ggcctagaag tggagctaag  1560
```

12042

```
aatggatgct aggctgagcc gctgatttcc ccgttcagta ctgcgcttca cagggggaac   1620

tatagacaga tggcgataca gtcttcaagc agctatgctt aaggatagca actacgaagt   1680

ggtgtccata agcttctcgt aaaatcgggt agatggccca gattgtggct gagtcgttcg   1740

gttcggcact tggctaactc cgttacatca tctttgggcg ggcgcggcat gtggtacaga   1800

atacagatta atctagtccc atattgaaat agcgtaacga tatgctctgt tgcagtatgc   1860

tggtcaccca ctgagaccaa ggctcatgtt ggtcccgaat gtgtgtcaag cttgtccatt   1920

tggaggcctg aggcttaaac gcatcgcacc gccacaagac cgcggcgatc gcccaaactt   1980

ccgtcggact tgctagctgc tctggttcct aacctgaact gacgcgccag cctcctggcc   2040

tcatggcggt gtagggtgta ctccaagttc agcaatgatc tcagagggcc ttagaattcg   2100

cttcttcaag tgcttcttta tttgttcaga tggctacagg ttggagctct cttttgttga   2160

ggcgtccacg aaagaacaaa gatactgaca ccatctagtg cgaatttgtg tttgcgggga   2220

tgagggaact ggaaagtcca gccttattac ctccctcgta aaaggcgtgt ttgtgacgaa   2280

caagatccag cccattctgc cacagatcac tatccctcct accattggaa cccccgagaa   2340

tgttacaacg acaacggtgg tcgatacctc tgctgtgccg caagaacgga gcaacttggc   2400

tagagaaatt cggaaatcga acgtgatatt gcttgtctat tctgatcact atagctatga   2460

gagggttgcg cttttctggc tgccctattt ccgctctctc ggcgtgaatg tgcctgtcgt   2520

gctgtgtgcc aacaagtccg atcttgctgc cgatcatacc gagacgcaag tcatcgagga   2580

cgagatgttg ccgttgatgt cagagttcaa ggaaatcgat tcatgcattc ggaccagtgc   2640

ccgagaacat cgtaatgtca acgaggcctt tttcctttgc cagaaagcgg tcacacaccc   2700

tatcgcaccc ctattcgatg caaaggaatc agccttaaaa ccggcggctg tcgccgcgtt   2760

acaacgcatc ttctacctca gtgataaaga ccgggacggt tatctctcag ataaagagat   2820

aaaggatttt cagatgaggt gttttgagaa acctctgagc gaagaagact tggtccatat   2880

aaaagagaca attcagaaaa cacatcctga ctctgtgacg ccgtccggga tagattgccg   2940

gggatttatt catctgaaca agatgtatgc cgagaaagga cgccatgaaa cagtttggat   3000

catacttcgc gcatttcagt acaccgatag cctttcgttg caagagagct atctccaccc   3060

aaagtttgag gtgcctccgt ttgcatcagc ggaattgtct cctgagggct atcggttctt   3120

tgtcaacctt ttccttctct cagacaaaga caatgatggt ggactcaacg atgccgagtt   3180
```

```
agcatcattg ttcgcaccca cccctggatt gccgccctct tgggctgacg gctcatttcc  3240

ttcatgcact gtcagaaacg aggctggcca tgtcactctt cagggctggc tagcacagtg  3300

gagtatgaca acctttactt ctcccaagac gactctggaa tatctagcgt acttgggatt  3360

cgagtcttca gatcggagca acccctccac gaccgcggct cttaaggtaa cacgaccccg  3420

taagcggaga aaacgtccag gacgcgtcgg tcgcaatgtc gtccttggcc acatagtcgg  3480

agctccgggg tctggcaaat ctgcccttct cgatgctttt ctgtcccgcg gatttagtac  3540

cacttatcac cccacaattc aaccgcgtac cgcagtcaac acggttgagc ttccaggcgg  3600

aaaacaatgt tacctgatca tggatgagct cggcgagtta gaacctgcga ttcttgaaaa  3660

tcaagcgaag ctactcgatc agtgtgatgt gatcgtatac acatatgact cgtcagaccc  3720

cgattcattc gcatatatac ccgctctcag ggcgaagtat ccacacctgg aggagcttcc  3780

gagtgtgtac atcgcactca aggctgacct agaccgtaca acccagcgcg ctgaacatca  3840

gcctcatgaa tacacagctc tattgaatat gcctggtccg ccgcttcatg tgagcgttac  3900

ctggagttcc attcaagagg tgtttgtgca catcgcagaa gccgcaatgg aaccgagtac  3960

agcattccct cggagcgagg aagacgtcga gggcaaatgg atgtcgtggg gaattgctct  4020

cggagctgtg gtttgtgcgg gagctgctgc tgttatgatc tggcgacgag tcagtggtag  4080

tggagtctga cgcctggttg agggcgtcca tgctgtaatg atggaactcg atacccctga  4140

aatcaattat tgcgttgctt tggatagatt tattgcgaat accgagcaat gtatatgaaa  4200

tcttcgcaat gtgttgagct acaggcactt tgtcgaatag acagccatta aggttaagaa  4260

cctgacacag gcgtccactt tgtcactcca gaatggaata ttaagtctaa aatggcaaat  4320

gtgaagcacg agcctctatg tatagtttcc tggcatgtca gtgcatgtat gtactatgtc  4380

ggcgccatcg gtagcttgcc ccacgcagaa gttccaccaa ccagccacac caagttcccc  4440

ggaattccac actgccgctg cccgttggct tggaagtcga tagactcctc tcccccttcct  4500

gtgaacttga acgccttttg tctttaacgc catctcacta cttcatctac aatctgaatg  4560

tctccggcat tgcacgtgtc gtctgtgaat ccatttctgg ttagctcact cttatttcct  4620

tgcgtgccgt ctctcaaaca gtcggcgaac tcgaacaaac cgcggccgcc atccgcgctc  4680

cgcctcccgt tcttcaatag cccagctgaa cgctgtcgca ttgctgtcgt cgagtacggc  4740

agatattcgc tagagaatag cggacatagc ggcatatgag aaagtgtgcc cctaggcagt  4800
```

12044

```
tacagacagc ctagcgactc cactctatat actctacgca actctcaacg cctatcacgc   4860

cacgatgttg taagtactgg tagttcagat tgcttatctt gcagccactt tggccccatg   4920

ccgaatcgcg aattctcagc gttacagagc atgtgcttgt tgggatggtc gccgtttatt   4980

ggggtccctg cagctcttgt cttcctgtct gctgactttg tgctctgtgc ttatagcgtc   5040

ctaccccac ctcccctcg ctataccgtc ccggtagcgt atgcggctgg agcatcgaat    5100

ggtatggcag ttcccatagt ggaaacaaat aatataatca cccatccgga gaagggctgc   5160

ccgcttcaag tcggagaagg tacgtctgtt tttgcgacaa tcacagattc actatcgcag   5220

tggtccccgt gcggctgcgt gagtccactc gcatctctag ggtttcttgc tgacttctcg   5280

gtacgtgtcc agggacatac caactacagg acgacctgca tctagctacc cctcccccgc   5340

atccctctga agcgccgatc ataaacccga atccactcgc taccgtccct aatcctccga   5400

cgtccggcgt caagttatca ttgattagcc ttggacttcg aaataagacc gctttcccgt   5460

cgaaagtgca agtcactgca cgaccattcg gagatggaaa tagtgctttg gcggctgccc   5520

ctgtcaagga cccctccaag aagcgaaaac ccaagaacaa catcatcaag agcagttcat   5580

cgtttgtatc tcgggttatt atccatgagg caacgacgaa gcgcttaaat gaccgagatc   5640

cagaaggact gttcgcgttt gcgaacatca atcgcgcgtt tcaatggctg gacctcagtt   5700

caaagcataa agacgaacca ttgtcgaaga ttcttttcac caaggcacat atgataagcc   5760

acgatgtcaa tgaaataacc aaaagctcgg cgcatattga tgtgatcatg ggatcatcgg   5820

ccggagacat cttttggtat gagcccatat ctcagaagta cgcgcggatc aacaagaacg   5880

gaattatcaa tagttctcca gtaacacata ttaaatggat cccgggttca gaaaacttct   5940

tcatagcggc tcatgaaaat gggcagttag tggtgtacga caaggagaag gaagatgctc   6000

tttttatccc agaactgccc gaacaatcag cagaatctgt gaaaccatct cgctggtcac   6060

tgcaggtatt gaaatcagtc aactctaaaa accagaaggc caatccggtc gcggtctgga   6120

ggttagccaa ccagaagata actcaatttg ctttttcccc ggaccacaga catctagctg   6180

tagtcttgga agatgggacg ttacggctga tggactatct tcaggaagag taatctaccc   6240

tgtgctacgg tttatagcag aagctaatag aacatacaga gtcttggatg ttttccgaag   6300

ttactatggc gggtttactt gcgtttgttg gtctccagac ggaaagtata ttgtcactgg   6360

tggccaagat gacttggtaa caatatggtc tctaccggag cgcaagatca ttgcacggtg   6420
```

```
tcaaggccac gactcgtggg tttctgccgt cgcgtttgac ccctggcgat gtgatgagcg    6480

gacatacaga attggcagcg tcggtgatga ttgtaaccta ctgctttggg actttagcgt    6540

gggtatgctg caccgcccaa aagtggtatg tcaccagagt tgcagcctcc ggaacgaagt    6600

tggttatcta acttcaccat ttgatatagc atcatcaaac cagcgctcgc catcgaacaa    6660

gcctaattgc gccaagctca caacaaccaa accgccatag agctgatagc tcgggaaacc    6720

gaatgaggtc ggattctcag cgaaccgccg cggacagcga gtctgctccc gatcaacctg    6780

ttcaacatcc cgtcgagtcc agagcacgca cggcattatt gccgccgatt atggtttgtt    6840

cttctcgtct gtagttgcta cgtaaaggaa ctaacattgt tctagtccaa agctgtcggt    6900

gaagacccga tctgttggct cggcttccaa gaggatacaa tcatgacatc ttctctagaa    6960

ggtatgtgaa tttattttgg tagttgccat tactgctaat gaaggcattt gaaaggccac    7020

attcgtactt gggatcgtcc tcgagaaaat atcagtgaca actatgggga tcagaagtcg    7080

tccgagaccc tcggaaccgg taaggaagca ggccacccgg catcgtctat gggatcactt    7140

tgaaagttac catttgaaac ataccattcg aaatgtcagc gatcaaatgc gatcatgcac    7200

acatctgttt agatcatacc cattctagcg cctgtaggct gtgtctggat atatgaattc    7260

gttcctttct gtcaccggac ctatatagag gactaaacat ggtgacagaa ctactgagaa    7320

gattatactg taagtcaatc gaaaagttat ccaatcagct tccattccag tccccagtaa    7380

gtaagaaagt tgcaatagat gcgagtaatg gttggtatac cctcgtcccg gaacattgtt    7440

gtgccgattc ctggacgcgg cgtggcatca actatcgaac tgcagtgtac ggacagcttt    7500

caatcggacc cagctataaa gaccctcggc cacccaccac accaaatacc tctcaacaat    7560

ggggtcttcc cgactagcga tgaggtcggc cctcgggcta ttcttccttc tttttgtgca    7620

aatatctttg gcgctcaagt tcgatatcgc tgctggaaag ggcgaacgat gtattcgcaa    7680

cttcgtcctg aaagaccagc ttgtcgttgt tactgccatc gtgagcggcg agagggggga    7740

tggtcagatg gtcaacatgc atgtatgtgg gatttcaact ttagcgatag ttaccagcat    7800

cgggactcgg atgcgaatct cagcttcgat gcaattacgt cggcctctgt aacggtgcta    7860

acgatcgttc tgtaaaagat caaggattca atgggcaacg accacggaag accgaaggat    7920

gtgatcggtg agactcgtca ggcgttcaca tctgctggag acactacctt tgacgtttgc    7980

ttcgagaata cgctggtttc ccgccgtacg ttcagtctcc caggtccata tgcccggagc    8040
```

gtttacagtg ctaaaatagg ccgaactagg tggaatctcg aacccgcacc gatcgattga 8100

gctggacgtc gacatcggtg ccgacgctcg tgactggtca aacattcagg cccaggagaa 8160

gctcaagccg attgagaccg accttcgccg cattgaagag atcgtcgctg aagttgttag 8220

tgagatggaa tacctccgcg ctcgtgagca gaagctgcgg gacaccaatg agagcacgaa 8280

cgagcgtgtg aagtggttcg ctttcggcac aatgggcatg ctggtcggac tcggtgtctg 8340

gcaggttatt tacctgcggg cttacttccg gtgcgtcttc tcaggctgcg aatgtggtag 8400

tttgttagca actgacatta ttctctagat ctaagcacct tatttagtct tcttttagcg 8460

tcctttctg gtaggagaca ggcgccaaat gtggtttcta tatcttatga caaacacgaa 8520

gtctcaatgc atttgctgcg tgcagcttgt gccgcctcgg atattctatg gtatactgtt 8580

caacacttat gactattatt atgacacaat acatgaaaat tgtaggtcgt ttccagttga 8640

cagccctctt ggtctcagga atagtaaaac gtagctgcat ctaatcgaat gcctacgcat 8700

attgctccag tcttcatacc ccttcaaacc atcgacagag catagattca aaattattat 8760

gggctgggga gatgttttgg aattcgtctt ttttatttgg ttgttaatgc tgcaaacacg 8820

gcaaactgta ccgcactggt gcctcggatg atgtcaatcc cgcataattg tctagctcga 8880

ctccgtagct cgactttcca atccaacttc atactttcta ttctgctaat tgtcacttat 8940

tctgaaatat tgaactataa tgtccacaat tcggttggtc caccgccttg tgcggccgcc 9000

aatgtcgcat ctctcatcca cgagatccgc ggctcgttca tttagtgcgg catttcaccc 9060

gcaagccaac aaggatagtg atcgagctca ctcgactaca ccgcagcacc gggtgaacca 9120

aacggacaag cctcccaatc cagctgtgcc gagtacgacc tcaacattga ccaaggattt 9180

ccccaaagct ggagagaaga atcctccacc agatctccta aactcagccg atccgaacta 9240

caagcctgtg gatacttacc ccgggaaagt tgaacactac acgggaggca gacagcagca 9300

tggagcgcag aagccagaac ttgaggttgg tgagatggag ggcatcacgt tcaaggttga 9360

gccactgagg cgggttgggg aggatatatc aaccatgagg gctcgcctgc tgtgttagtt 9420

aatctctggc cctctttgtc tttcttaccg gacgtcgttt aagacggaag ctaacttact 9480

tgccggaact cagaccagag tcggaagcga ggtattctcg agtccgacct gctgttgtct 9540

acttttgccg acgtttattt agccgacatg aacaaggagc agctgcaaga atacgatcgg 9600

ttccttgacg agaatgactg ggacatctac tactgggcga cccaggatcc cccggctgag 9660

12047

```
ggcggcgcta aatcagacgt ttccaaggac accccaaccg aaacatggca acgcaccggg  9720

gccaaaagtg gcgagtgggc gcaaacagtt ggtgccttta aggctgcgta ccggccagta  9780

ccgtcgcgat gggcggactc tgatatcctg agactattga gacagcatgt tcgggataac  9840

agtgccaatg gtttccatgc ggcaaagaac aggaagacgg gcggaggtgg cttgaacaga  9900

atgcctaaca tccagatctt caacaactga acggcccagt tatcaagagc tagcgcttga  9960

gcttgatctt tgtacaatat ggtttcctgt tttgtttctg gggggaatat atatgggcgc  10020

ttcaagaatg ctgcatagaa cagaatttac aattaaaaca aatatataag acgtaccaaa  10080

agcaagctta cttataccgt ccatctgctt catacaaagt ataatcaata agagatagta  10140

tatatagtca cgtgactcgc ttagctttag ggttcgtggc ccacacagtc agcggctgcg  10200

gtaagctagg gctctcctcc atcttcgaac gccgtgattt tatctccagc gcagagtcta  10260

cgacaattgc tccgcccgcg ttcattctcc tccctcctct cgcggccccc ttccatcgtc  10320

ctcccagact ccgatcatgg ctgagcagct ggtccttcgc ggcacccttg agggtcacaa  10380

tggctgggtt acttccctgg ctacctctct ggagaagtaa gggcaccgat ttgcatggat  10440

aaaatacgta tatggaacta catgcgaatc cgtgtgtata tccatatacg tatcgcatag  10500

attttttgt gctggttgaa aatggacaat ggttctgact tgagattttt attgatagcc  10560

ccaacatgct gctctctggc agtcgcgaca agaccaaaat catctggaac ctgacccgcg  10620

acgagcaggc ctacggctac cccaagcgca gacatgaggg tcactctcac atcagatccg  10680

actgtgtatg cctacgatcc gctattcccc gaaattcgtg cccaaagaa tgtgcaaaga  10740

gcggggttca dacggaaggg atatatgaca atcagaatca gtttgactga tgagtgtgct  10800

tggacgtata ggtgatctcc tccgacggag cctacgctct gtccgcctct tgggacaagt  10860

ccctccgcct ctgggagctt tcctccggcc agaccacccg dacgttcgtt ggtcacacca  10920

acgacgttct ctccgtttcc ttctccgccg acaaccgcca gatcgtttcc ggctcccgtg  10980

accgcaccat caagctctgg aacactcttg gagactgcaa gtacaccatc accgacaagg  11040

gccacaccga gtgggtttcg tgcgtgcgct tcagccccaa cccccagaac cctgtcatcg  11100

tctccgctgg ctgggacaaa ctcgtcaagg tacgtcctct ttacatgttc tctcgcttgc  11160

tgcacgcact tggtcctatg atgtttgcat tttacacgta tttgctactt cagagcctta  11220

cggccatgag acaaaaaatc accatatgcc tgatggacac gccaacccccg tttgcttatt  11280
```

12048

```
tcttttactg ctataatcct gattataagt catgagggct gcaactaaca aaacaaaaag 11340

gtttgggaac tcgcttcctg ccgcctccag accgaccaca tcggtcacac tggctacatc 11400

aacaccgtca ccatttcccc cgatggatcc ctctgtgcct ccggtggtaa ggacggtgtc 11460

actatgctct gggatctcaa cgagtccaag cacctctact ctctccacgc cggtgatgag 11520

attcacgccc ttgtcttctc ccccaaccgc tactggctct gcgctgctac cagcagcagc 11580

atcaccatct cgaccttga gaagaagagc aaggtcgacg agctcaagcc cgagtacatt 11640

gagaagggca agaagagccg cgagcccgag tgtgtttctc tcgcctggtc cgctgatggc 11700

cagactcttt tcgctggtta cactgacaac aagatccgcg cttggggtgt catgtcgagg 11760

gcgtagattg tgagcataga gaggaaatga caaaataatt gtgaaggact tgagagcgaa 11820

tgggttgaat ttggcagacg aaccaaaata aagcctccta aagcttttgt ttgatatcaa 11880

atcttctttt atcatcttca tcacctcctt atccccattc ttccctggga cccttccata 11940

ctcaaaaatc gggcaggcat ttggttggga ttgtatgagc catgagcaat gaagcactct 12000

tcgcgaatat tcgtgtaaaa gacccgttgg gggtcgttcg aaattacttc tctctacgtt 12060

ccctgattta ctccgctcag aacatagcgt ctggcaattg tggaggatat cccccggtct 12120

gataatttcg taaaggctcc tgcattccgc cgttaaggcc ctagatcgtc gtggcagtga 12180

catccaaaca atgttggatt cattgtgtac gaaatatgat atgattggcg acatgctcat 12240

tgatgccttt aaacggttgg cttctacaca attacatatt cctctggtct ggatatggga 12300

tatatattat tgtacaagcc tactcagtac aacagccagc gaagagccac tagaaggcta 12360

gccatacctt tctttatctc ttcgatactc tttccacagc tgctcttaaa tcatcaacca 12420

cctcctcatg tcgtgggtca accattgtcg agtgactggc ataaacctta gcagtatcaa 12480

ttgcttccct gtagtacttt tccgcctctt ccagctcgcc ctgccgctca gcaagctgac 12540

ctagggtgtt cttaacagat atacacccca agagatatga ctcgtctttc tcattgtcgg 12600

gaatcttgtc cattatttta ttagcagtca ttgcccattc cctggcatgg ccaactagat 12660

gattgcgcgc ggcatcggga tcgtccgctc gaagaggctt cagcgattga acgttgagtg 12720

tggacgcaat aatgcctagc aggtagaact gaaaagcggt cggttttggg ccttcatctt 12780

cgcggagtag ttctaaagca cgcaggaaga ccgggagggc caagtcgtgc ttgtccaatt 12840

ctccgtaagt ttgggccaaa ttggtaagag ccattgcagc atctcgccgg gtcaaccacg 12900
```

12049

gtgttagttc attttcggcg ttcgggttgg ggttgctgag gggaagacca gtgctttgtc 12960

ggtatttgag ctcgttcatg ctcagctcaa tgccggattc gtgggcagcc tcggatatat 13020

tangatcctg gatgtggtcg ctggcgtaga gttgcccaag ctttagtgga tc   13072

<210>   5826
<211>   8098
<212>   DNA
<213>   Aspergillus nidulans

<223>   unsure at all n locations
<400>   5826

acgaaggtcg attccagagt tgtctagtag cgcgtatgag ccgtcgctat taattccagc   60

aaagttgctt gcatgctcaa gtacgtccac ctcgtagcca ttgcttcgta aaatcaaccc 120

taatataccg acactggcct gtacccgtcg actcaagtca ccattggttg acttgccatg 180

agctgtctga aagagagctt ctaatgaaag acactgttca aagaggagtc caacagcgct 240

agcgttgaat tctcgcatca tattgagctt tttccttctc cgctgtatct ccaactttga 300

tgcactcaaa gaagggaata gtccaatttt gtgggagaac aggactgggg aaacacgctg 360

tcgtgttaga gagtgaattc gtgaccacat agtcgagtcg tctctctttt tagcaacgag 420

aacatccgtg tcacgcctgg atgtaatgtc attattgtga ccatgaccac accggatgca 480

ttgctgccat agtctcaacg gcgaaaattg cactgcgtaa agtccgacac tccactcaaa 540

ttgtagcaca ttctcccagt atcgaatttc ttcatttatc gaaagtacat tattggagaa 600

aactttcagt gacgcggcaa gagtctgtat gaacgttttc gcgcttatca gccacgaaag 660

atctgtcagg tgatatgtga catcagatgt cggatgagag tcaacagcat tgcggagatc 720

atcgcgagac cttttgatgg ccctaacgag attacttggg tgctgaaggc cggcggtacg 780

aatgctcatg gacagctgac cagtaatttg ctcaaggctt ccaggcgct cgaaagagaa 840

atcggtacgc ctggtgctgt cgcgaaattc caactcgata ttgtcattga tccgttgatg 900

atgctctgcc agctgcgttt caaggcggta taattttcta tgtactagtc agtcggagtt 960

caagcgcagt gaggaagcta gcttgcctct gaaccgccaa cattgtcctt atgtaaagaa 1020

gctggcctgt gtacggtgta tttccagcag ggcgcagcct tgtgtggtaa atgttgtaaa 1080

acttctagcg tctcagtttg tgatttaatt aatgtttagg gtagcctaca tgttctcaac 1140

ttgcccagga cgtggtactg tagctgctat gacatcacag agtacggcgt actcctagta 1200

```
ggtatactca aatattctgt acatagtgcg gcccggacac tagcgggtta cctgggagcg 1260

gcttacacgg tagtaaccgc tcacaagtca tgactattga ttttctgccg agtcttgggg 1320

ctgcttcaac tggtctttct gctcttcaag taggctattc tcaactgata tcgtagttta 1380

cttccactat tacatggtca tggtttccgt ttgtattgac atgatatcat agcgtggcac 1440

aaataaagta aatggcacac atcgatggtt gctctgagaa agatgagaaa gaaaccacaa 1500

ggtttctgac tgctagaata cagctgtggt taagcgaaac gccaatcgag tacacaaatt 1560

ttgttaggag gttccgccaa atgcaatcat aaaatagatc tatgaaccta aaaaagacgc 1620

agacacattt atccacgtta catcccatta ttacaatggt agagctgcgt acagacgtaa 1680

tgaacatcaa ctcatgtggt gatgataata ttaaacgtcg ggttggccaa gctcaatgtt 1740

ccagaaaagt gaccaaggaa tctccaattg ttcctgccac agactgctca gacggcatgg 1800

tagtaaacta gtggtgaact tactttttga gaagctaaag gatagtctga agtctcctgc 1860

gaaaatgttg tactggaact ggagcacagg tagatccctt cctcaacaga tcctatagca 1920

gccacatact gatatctggt cactcacagg ccccagcaat ttctgtaagg cagcatagga 1980

ctagttttgt taggctgaca gggtagtgga ttctgaaata ttaatatttc gtatatttta 2040

ttatttcgtg ccatcatgca tcaactacta aatgttgtcc cagatccttc atgggggtag 2100

ctgcaggcca agtggggcaa taaagcatca gccattcata atttcggtct tgtagcccac 2160

ggtggtgcca attagccagg gggtaaatcg agttgttcag gccgggcccg ggtgcctggt 2220

ggtcgcgcca cccggaaccc agtcgcaaaa atcacgcggt cccagggaaa ttatttgttg 2280

agattcctga ataccaacc tcatccttca ctaccttcaa acttcgatta ctcctcctgg 2340

gaaacataca aactaacatt cactgagcca tcacggcaag gttttcacca tgaactttat 2400

gtaagtggca tattgcgtag cgagtcttcg ctcctttaaa tatgtggcaa aagctaatca 2460

gaagttagga attcgacctt ctcgtcgact actcctgaaa cctactggga tcattatgat 2520

gacatttccg cccatagctc acacctaaac gttgctgaac gtttgtgggc agcttggtat 2580

gcttggatgc aaaatgatgt cctagcgaca ggtatcatgt ccttcgttat gcacgagcta 2640

gtatactttg ggcggtctct gccgtggatt ctcatcgaca cgcttggttt tttcaagaac 2700

tataagattc agagtgtaag aatatgtcct ttctgcacca attttcaact tttcgactga 2760

gtcagtcaga gtaaaattcc gtccttacgg gagcagtggg attgcgccaa atttgtcctt 2820
```

```
ttgagccatt tcacggttga gttaccccaa atatggtcag tcatgcatgc aatattagtc 2880

aaaaagcagc ttgttctaac ctcactgttc tgaaggcttt tccatccaat ggctcaattc 2940

ttcggtctct ctacatctgt gccgtttcct tctttctgga caatggccta ccaaatcgca 3000

atcttcttcg tcatggaaga cacatggcat tattttttccc atcgagctct ccactggggt 3060

ccactttaca aagccattca caagatccat catcaatatt cagctccatt cggcatggcc 3120

gctgaatatg cgtcacctat agaggttatg attctgggat ttggtactgt tggatgccca 3180

attgtatggt gcgctgcgac tggggatctg catatcttta cgatgtatgt ttggattgtg 3240

cttcggttgt tccaggccat tgatgcacac agtgggtatg agttcccatg gagtctacac 3300

cactttcttc ctttttgggc tggagcagat catcacgacc ttcaccacga gaagttcgtt 3360

ggcaactact ccagcagttt caggtggtgg gattatgttt tggacacaga gtacagtccc 3420

gaggcgatca ggcggaggcg ggatcacaag gcggtcggcg gtgcgaagaa aaccgaataa 3480

cgctatcgta cttgaggtct cgtgggtaat ttttatttct gcactgctgt gatacttaga 3540

atggcattaa tatgagcatt gtcactcccc ttgccaggag tacttcccca gacatgctca 3600

tttgggaccg gggcataccc cgtcatatcg atagcccgac ggctcatcgt ataatacttg 3660

gctgatgaga tagattttaa tgataaacaa ggtgccaaac ttcaagctat tcgaaacacc 3720

gttaggcaga gattcaggta gtatggagag gtccacctct taagcctttc ctaacaatgg 3780

ggtaactccg ttgttgtaag ctctgcgatt ttggtcgact tgagacagta tgccaaaatg 3840

tgctaggcag gttgatgcta atatatgtta cggattccgc taaggctcga tatcaagatc 3900

caagcgcccc aggcggactt tgggtgtaat cgaaatctag ggtcgccctc tggaaaatgc 3960

gacgctggcg gaaccgtcag gatcagttgc cattttttgg atggactttg tcatgatgtt 4020

actaccaggt tacatgtgca tatctctata gacatactta ggaccgaggg aggttccccg 4080

gcctggggaa acctccaagg tttagtttcg attacatcga tcattcgtcc tcctttcaat 4140

aatcctttat gggattggaa cccttacccg gttaacgggg ccgacctatc ctgacgaagt 4200

agatccttaa caccgcgtgc gggtcagaca actggacaca aaatccaacc cgattgcggg 4260

tcgtgtcatg tcccgtaatg ggtactgcgg gttttttgcga agtctactgt gaggtcaatc 4320

cagaagtgtt ggcgtctgcc atgcaagccc ctaattaagt tgaataaagt ctattcacga 4380

ccatgccata aaccttgcat ccaagtacat ctaggcaaag catatttgtc ccttgaggtg 4440
```

```
tggtgtgcct tcatatactg gtatcatgaa ataattagta agagcaatat atttacatct 4500

acggtctaga atgccaagtt taaccttgtc gaacttgaaa tcttgggcta tgtcttgaga 4560

actttaatta ctgtgtataa agttagccag tcattgtaaa ggattgttgg gtctatgacg 4620

aagatcatgt ttcataaata tgggctgcat gtagtctata tgtctataaa aggttgttct 4680

ttcccactct tattagtgtt tattcataac gccattattt acaaattaaa acatattctt 4740

gtgcatcccc ttctatagct tcataaatgc atcttttctc tgttcttgct accatatttg 4800

ctatattaat ctcctcagca attgcagcac caaatatcaa cttagagaat gatcatccag 4860

gttgtcttcc gtgcttgctt agacaaaaag cctgcatgtt ctggggaaat ggtaaactcc 4920

tatacacttt attcaggtaa agcggagacc taatactcgt ctctcggtgt ataggatcca 4980

aagaaattgg taaagtctga tttttgtaca gctataagac atagctaatc ccttccaggg 5040

tgactgttgg acatgctgtt tgcatgaaga agccatttct ttggaaaata ttcagcagct 5100

gctgtccccc actagtggta atgaacatga atctagcctg gttgaaccgc agggtaagac 5160

tcccatctgt tctaacccct atcacaatag tcttcataga cgccatatca gttttactgc 5220

gtgccgcaca agccttcttc tagatgtgtt actaacggaa attgtgcctg ggcatatata 5280

gattgtcatc tccaacccgg ccaacaatgc tgtgactgga gtggctgtgc ctggtgctgc 5340

aatagtgcgt gcaagagacc ttgccaattc attccacatc ttggtaatgt gtgtgatcat 5400

tgggggacgt gtgtttaaac ctgcatacat aaggcggggc tatgcacaac atattcgata 5460

tcagtccctg caatgtgttt aagaatgtag tataggtatg gatcaagtct taaaaaggtt 5520

ggaaattgct gaatatggat ataatggcta ggatggattt tgttttcttc tgatgcaaac 5580

agactgagaa aaaattggtt tttgtaaaaa tgtataattt gtctatgttg tgtaatatgc 5640

atgtgtcctc aaaggaagaa ggccagaatg aagctatact gactacacgt atgtagccta 5700

tatcttatag gctgcggagt acccgacctg cagtgccatt tttctgtgct tgattggccc 5760

cataggggc cccagtgcgt gttcacctta gccaaagtgc gtgtgattga gcctggccag 5820

ctaagtttgt cgctgatgaa ctcgaacgcg tgtttaaaac ggacggtaat aagcatttgt 5880

aagcttcata actaccatgc agggcgctca aaacggataa ttaagcgaga gttatgctag 5940

tgcggccata gtgaggttaa ccgcagtgaa accgcggtaa acctcgaatt tgcggtgata 6000

gtgattgtca cgggcgtagg cagtattgtt ttcaactggc tgtcctgtat tcacaagtat 6060
```

cacaagctta gaagaagaaa caaaagatag aagcgcggat atcttctccc cccttttat 6120

taagcttaat catacgtcaa gatctccaac ttcccggact tgcatgccga cagatctctt 6180

ttcctaccag gccgcaattc ccaagctgta cactgatgtt gcagaaacct tatttaggac 6240

caggttgagg gcatggccga caaccaggat ccaggccata gcctgtgacg gtgatggata 6300

tcaaatctca tgaccataac cgcaattgcg gcgatggtta tcaatctcat agctgcggtt 6360

gcggttatgc cgcagcctac ctcttgggca agttcttcat gttctcgagc cttttgctgt 6420

ccttcactgc ctgtcagact gccaccagac tggctgaaat atcttgttgt cttctgcttc 6480

tcttttggt atatcatacc tgcactaagt tgctggatct cttactgtac tagaacagca 6540

ttctgtatag taatctctgc acctttgaca atcttatcca ctgcctgctc tattatacta 6600

ggagatattg attagcagct ttgaaggtgt tcaatttgcc gcttctggtt ttctaaccga 6660

cactagaatt tgctggagtc ttgcctatac tgaatgatta gttgctttta gaagtaacgt 6720

gggtntgngt gtttttaggc tttgtgtnag accgtgatca cnnnnnnggg ggttctctag 6780

ctacaacgaa gcgatgacta tcaacgataa ttatccaatg aagggagctt gattggtact 6840

gaagaatatt gaaaggattg cttggagatc tctatgtaca tggcatcagg aggcccttca 6900

tataacctcc agtgtggtta gttcggcatc tccaagcaat accattacag tgacgcattg 6960

gtgattgcgt ataccaccac atcccactgc aacaatatat gggttgatcc cagtacggct 7020

tgttgtaatt atgcaaagag tctgattgat tgattgaagt atgattcatt cttgtgttgt 7080

tttgaagcta tcgctaatga tatcatttat tattctgccc gacgcccaac cgctttcctc 7140

ttctggatca ggcaggagcc agtcgatgcc atgcagcaac gctatacaac aaggctcatc 7200

ctgggcaccg tgcccgggat gagctctgcc tgggatgggc cagcagatat gtcggatacg 7260

gcaacaggat acatctctgt ccttgacatg cctttcttgt acgcacggca gaatatatct 7320

tagaacaaaa atattatcct cctctaggat atcctaggta tatttttaga ttaaataaaa 7380

gttcctggga atagcaaata ctggttatca acaatttcag tcattttgct tgttctaaag 7440

attaaatata atgaagaatg agtatatata agtattatct ataagtttct cttgttcatt 7500

ctgaaccata ttggcagaat cctgaaccac gccaacctgt gaacccccat ttgggcttag 7560

cagagacact ttcgcgtcat gtgatgatgc attatccata tttagctctc ataatggcgg 7620

ggttgaacca ttctccaagc tacctgcaga gaaatgtgcc agagcagatc aatccttcgt 7680

12054

```
aaataatgcc tccaatgccg tctgaggaat accgcagtcg gtacagactt actgaggatt 7740

tgaaaatcaa atttctgggt cctctcgagc ccgaaaagtg gccgactcat tggccagagg 7800

acgccgacgc ctcttccacg acattgttaa gctcggcgac tcgaaatttg gtacctttga 7860

atgcacttat tcaagtgaaa agccatggcg agcccaaatc acaagaaggg cagcgaaact 7920

ggcgtacctc gccagtctgg tgctgtgacg agggcaagaa cgagccgagc tggagggcgt 7980

cgctagaaca tgaagtgctc tacctggttc acggtcgagg tatcgtgtca acttgccgag 8040

caagactgtg gcgctcagag attgaggctg ccattgagtc tagtgatccc aggcgtta    8098


<210>      5827
<211>      6962
<212>      DNA
<213>      Aspergillus nidulans

<400>      5827

ccgtagagag agaaggcgcg attagcggca tcgcaggctt agcgttgcaa cccaagacct    60

tgctcgaatt aaagcaagac ggcgaaggac ggtgggagat dataacaact ccaatgtagt   120

atgccaaggt aagacccagt cacaatgaaa ttggcttcgt gttcaaattg aggcttatca   180

aagagaaaca ctggacgcga gggggaggag tacacaaaca gcagggtcac gtggtactgc   240

caaggatcca ttgctctaca tcaaaaggct cagagcacag aactaccatt atcacagcat   300

catgctgctg cttagctaga tacactcaaa gtggatgatc aatccgaatc ataaccttgg   360

cgaaatgttt cctctctttc agtcgcctat acgcatcctt tgcctgggca agctcgaaaa   420

tcacgtcatc catcgcaggc acgagcttct tctcatcgat aaaccgcacc aattccttaa   480

actggttgca ggagccggct agaatgccac ggataataca gttatgtatc agggcggcaa   540

atataggtac tggctctgct gtgctgtcgc cgacttgccc gaccgctaag accaccccgt   600

caactcgtat agcggccaag gagtgcggaa acgtctcatt accaccgacg tcgacgacga   660

agtcaaagcc cctctcagct ggggtaagga gtcgtgcttc tttgccccaa gattctggat   720

tattgcgata attgaccaca tgggccgcac ctagcgcctt gaggcgatcg gctttctcga   780

ccgtggatgt agtggcgacg actgttgccc cagcggcgac cgcgagctgc aatgctgcta   840

tgctgacacc gcctgtacct tggacaagca cccatgagtc cggtcccgct tgcttgccgt   900

tcagaccgaa gagagcgttc caagccgtta gccaagtaca gggtaaggtg gccgccgaca   960
```

accagtccaa cgttctcggc gaatgaacta ggcctgcctc cggaaacaca gcccaggatc 1020

gtaatgtgcc atcgcttcct tgccccatgc tggcaactgc ctctgcaact ccagcgtggg 1080

catcgtcccc gtgtgcttcg acgagtttgg gggcgatgta cgtcacgacc cggtctcctg 1140

gactgaactc gcgaactgaa ggtccaacag cctctaccag gccagcccca tcgcagccgg 1200

gtacaatcgg cggagttatc gggccgttga tgccctgcaa attgtcagta ggaacatgcg 1260

aggcatacgg tttagagtcg caaataccat tggaccggct atgaccagct cgcggtagtt 1320

caagctggca gcatacatct tgaccagaac ttcgttgggt ttcaagtcat gtaccgaggg 1380

tatgttgaca ccctgttgat actcgagcga tgtctcgaac ccttcttggc cgttcaaaac 1440

ccactgcctg gccattgttc caaaattgga ttgatttcaa attcttgatc ttaggaaagt 1500

ttctcagttt tgatgcaagc aaggcagctg ttctggaggg aatcgctgcc cttaaatatt 1560

tcgcatgttt cgcttttaac attctagatc ccagactgat tttccttaat cggtaaatca 1620

tttgcagcca tcttccgaac ctccgattat aagtcgagcg atcgcttctc tgaactgtga 1680

aataaagtat atgcgtgagg attcaggcat gtcgaggcgg gcttggctct aatctgattt 1740

tcctaattgg gaaaatcaat tcaacttcct actgacggtt cgactactgc tgacagcgac 1800

gctgctggtt cacattgagg ttggctcttg tattattcat gctcgaagtc aatcttatat 1860

ctgagttatc ggcgtttgct tatggacagg tattgtggac tgaggctagt tctacggtct 1920

gcgagcgaat gctacacaaa tcatactatc atgcaatcat ggccgccttt gagttaatca 1980

gtatcgcatt tctgtgcttt ctgtgctgtg tcattcaagt cttctgttgc ttgtgcgctc 2040

taaatctata tcatatatct cccgccagag cgccttgatt tgcccaacaa gaccatcatc 2100

taactctgcc ccaatgaccg tctccgcgac gctcaaagga tcatgccagc catgccgctg 2160

catccatttt accgccttcg atatcctatc cacaaaccag gctcttactg gtgaagccgt 2220

gtcagcggcg atcgcccaat caagagctgg aaggatgtca ggtccatata tatacaccct 2280

ctgattggaa atctacatat cacctccttt agttcgccgg cgagcagtgt cagatgggca 2340

gctgattgtg tcggccaaag caggtaaagt actagttcaa ttgatcgtgc cgcggcatca 2400

atgtgggggt tatcagttgc tcgtaggttg cgtgcttcgt aatgtagtct agccagcggt 2460

tcttcgattt ccagcgcaac agatatagag ttgagagagc tcacttggag cgaatcgatt 2520

acctttctca atctgataac acggtcgcta atatctgcca gctttaagat tcttcgatca 2580

12056

```
cgctgttcac ctagtatctg acaatgctc tgataccaga ctcgtggaaa tccgatgata 2640

ttattaatgg agtccctaag ctgggttagc cacgctcagc cataatctaa gatacaccca 2700

ctggacaatg agatctatga accacgcagg caggctgtgc ggacctcgag acactctttc 2760

gctcacaatg cgggcaagac catccatatg tatcttccac gcaatgtcgt cgtgcactaa 2820

agaagcaccc agagccattg tgatcacggc accaaggacg ccatctgagg gagtcgctat 2880

cgatgtgatt cgctgtttaa tcagccttac agctgtatac gagtgataat ctgcctttga 2940

ctggcaagag ttatccggcg accattgccg cacagcgaca gcaagcgatg cttcgaccag 3000

cgccggctcc gaagctataa ggttaaacca agccgcttcg cttgcgctgc caggcgtatg 3060

ccttccttcc agaaagacta gctcctggat ctggtgaact gtagttgttc agtctcgcat 3120

gaccgagaga agctgctcag tacgtacagg cttcgatgtt ggatggattg caaggtgcca 3180

atctcagcga tggagcaccg tcctcctcct ctgtttgatt tagtcctcgc tgccttcgct 3240

ttgcgttcga ctcagacgct ccggcaatag cgagccgttg acgccttttg gcgaagttgg 3300

ctctggtgat gtgcgctctc atccgcttgg cagttgccgt agatagagag gctccagttg 3360

tattcaggaa ggttaaccca gctgattcca ttttcaacac tttctttaac cttcctcaat 3420

gtcgagttga taatgaaagc tctgacatcg tggaggctcg tgtcagcacc gttggaggtc 3480

agcatggatt aataatgcgc gacccctcca gttccctcat gctagtaggc agtaagatgc 3540

tggctcgcgc tatatcttgg gagatacgtc tactccaagt aagtgattgt atattgcttt 3600

ctgaaatttc aacatctcag atctactctt aaatgatcac tcctagactg acaagtcggc 3660

cagttagcca agatcctgca gcgaacgtga ctgtgtggcc caggcatgcg cgctgctttt 3720

gtcgcagtgt ataaagcatg ccacaagctt tatcttcgat aaaaacgatt aaaagctatg 3780

tttacgcaat ttgtgcgatt gggagcgcac tatggttcct cgttttgcag attgcggcat 3840

agcccggtat gtgacgtcat acatcacggc tacgggtgct tacattggta gcacacacat 3900

cataccttg tgtcaactag agcggctctg atccttcact gggaaggctt tgtagcgtgt 3960

gtaatagcct cagggccatt gccacttcct tggcgcgatc ttcagaatgt ttgagacact 4020

tgatctctcc ggtgagtaag atcattgggg cggggatctt ggtggactgt ctacatcgac 4080

accgcttatt gtgggtccag atttagtgga caccgtctat cctggcgcct ttttatatcc 4140

cgtggatgtt ggagcaccta tcaataggtc ttggcatgat cggcggatcg gctggcactg 4200
```

12057

```
cctctaccaa gcctgcaagc ctaccagatg gctcccaggt attccaagct tgcaagatga 4260

gtgacttatg aacctaccaa actcctctcg actccctgaa acccattctg acaataaaat 4320

ctgatacccA gcagtctgca acttctagag ccatggagtt tgccgcatac acccgacgga 4380

gtgtgcatac gatttcgaag tacctccgct gtctcgcact gatcgcctcc ttagccgctg 4440

tcatctcttt tgcatactct caagacgccc acgaccgggg tgtggtcctg acggaagact 4500

tgggtcatca tctagtcact ccggctaccg ggacggtatg tccaagatta ttacccatac 4560

gaccttgata ttaactcgct tagaccgagt acgcgtttat ctggtccctc atcatccttt 4620

ccattgagtt gtcttcccca gttaccatcc accctggcat ttacgttgcg ttcgaccttc 4680

tcgcttggac tgcggttacc accggtgtct ctttgtacct ggcgatgcat gagccgtact 4740

atacaggcga tggatatacc tgcggccgtg actaccgtga atatcgtgac tgtggcggaa 4800

aacaagttgc aaacgtcgag cacttcggca ccgcaatggg atttctggcc gtgtaagtga 4860

ccggtcgtca ttgggctcgt cttcgttgta tactgaccag ccacatgtag cgtcattcac 4920

cttgggttct tcgtttggta ttgtcgcgca actgataagt tgcgcaagag tcagcgcgtg 4980

ttgaaggaag agatttcaag ccatgctgca gcataagacc cgtcggtctt gcccaacgtc 5040

aatagtgaac ggagaaaggc tggagattcc gagaccaggg ttactcaagc ctcagctgcc 5100

tccttagttg agatgaaggc gacgagctac gacgataatg gttgatgcag aatgcccaag 5160

aaatgccgcc tcaaaaaaaa atatcctttg tggtttggcg tcttgagtgg cttttttgtgg 5220

tcttcgagtt atgtgccatg ctgctcttat actggccagc tggctcttgt aatgtttaat 5280

gattaataca atggacagat gaagaatgct caggcaccca gaacttcaac ttccctagac 5340

ataaaacgat agataccaac tcaaattaac agcagttcct gatccaagct ctcaacctgc 5400

tcagatatta gaatatgcac atcacactta gtagagagcg aattgctccg cggctgttgg 5460

cggtatactc ttgaacgcca gggcccacaa cgaaactata tatatctgcc tctacgcaat 5520

gatttttca gcgcaacaac attattcaat ttttaccggc taaaagggat atcaggatta 5580

accttattta ccaattatgg agaacttcag ccctacgata ttgtggattc cactgctttc 5640

cgctctattc gtcatgagta tgtacactag taaggagcga tagcagtaaa gcgcttccag 5700

ttccatactc aacatcgtgt accacccaat tatcatcggc cactactata cttatcttta 5760

ttcttatgag gccagtactt ttgatggcta taatgctctc ttatccaagt acaccaacgc 5820
```

gtaagtagtc ataagagaag tggctgtaac ttcccactca gccaaaaagg gtccaggttg 5880

cagctcggtt agacctgatt tctcaaaagg gtctcccacc tttaagagct gaggtttgac 5940

tatatactgg ctattactgg taaggtggtc acatgacaag ctcgacatac tgcccttcag 6000

taccgcctgc ccctgaggtt cgacctcgat tagtcattat ttagtaagct agttgtttag 6060

ataggcaggc cattccggcc acccaatgag agaccatcca tctcttccca cagggtccgc 6120

gggacccgga aaccggccac aagcaggttt ctacctagat atcttgccct taagtcgcct 6180

gagatgattc gtgaatttca aggtctgtaa taatgcaata cgctattatc atcataaaga 6240

cgtcaagcat cacaagcctg cagaaataaa acttagataa aagttagata aaagttaatt 6300

aaattgactc tctgagaccc tgggccgcgg cccactgccc agtttcacgt gagcgtccct 6360

gtggtcggct ttcacatgcg ccaggaacaa ctttactctt acactgtaag atcggaaaca 6420

cgcgggtgat cgagggagga tatgaaacat cgtgggccca tcgagcccct tgctgcagga 6480

aaagcttaaa accaatatta ttgcttgaat agactatagt cgtgacaaac cccgaaaatt 6540

gggaaaataa tccaatacta cactgagcta tcgattcaaa gtgcctctag tttcgctgct 6600

ccttagattc aaggtgtagg gatttagtgg ttgagtggag atatatatat ttgtgccggg 6660

ctgctttctg ctgaagacac ggcaaactat tgtatggatc ggcaatcaaa aagagagtat 6720

tagcatagga agtatgaatt ttttttttct gaatatcttc ttgcaaggca gactggtgct 6780

aatcactagt ccagccgtaa tatagacgat cggcaggttc atattcgggt tttgtctgca 6840

atgtctcgat ctcgattctg atcttgagtt cagactaact tgtcagatgc ctgtaaaatg 6900

aaccggtcat ggaccagtgg ggtcgagtgg gattactccg tttgctctaa gtagaaggtt 6960

ac   6962

<210>   5828
<211>   3737
<212>   DNA
<213>   Aspergillus nidulans

<400>   5828

atggaaggat aggaaacgga acgcggaagg aggataaatg aggaggagga agagagagtt   60

ttcttttcgg tctcgcttag aggttgacta ctaccgcaca gaagtagcac actgacaatg   120

gctgcattgg atcacaacaa acaactaagg attatcatta agtccagtag gtactttgta   180

12059

```
gctgatactc gtactagtat agtgttaaag cgcggttttt agcaccagga aagagagcgt   240

gttgctgcgt tggcagccca ccatccaacc atcccactac aacaatccag actggcgaaa   300

aaataaaaga aaatctttc atgctgatag accatgctgt ccatctagag tgcaattggc   360

gtggcaaggg agaaggtcac gggcgagccg gagagctgcg cccatacggt gaaggggtcg   420

ctgcccagct gctccgtcgc gaagcctagg gtgtccgtag gcgcggtcgg gaaggtaacg   480

gggatgttcg cgtcgcaggt gttgccgttc gcagtcacgg tgacgccggt gatagcgccg   540

ttgtcgagga tgtagttgag cccgtagtcg cagtggtcgc gggtgtagcg ggcgaggaat   600

tcggcggaca tctactttag ttagcaagct gtaactatga ggaaagcaag cgcaagaatt   660

aaagcagagg gtagaaaagc aggggaagca gagggaaagc agagggaagt gtacctcttg   720

atgcgtaatc gtaacaatgg gccagtccac cagccgggtg aactcggcaa cgatggtctc   780

aacccacgcc tggaagatgg agaactggcc ggtctcagag ccgacggtga tggggtcgat   840

cccgacattg cgcaggttgg cctggtggaa catgtacggg tcgcgatgga ggccgaacaa   900

gtgacgcagg acctcggcgc gctctgtgtc cagcaggtca ttgaagtctc cggcgccggc   960

agaggtatcg atccattcct gtgtcgtgca ggcagggggtg tcgcagttgt agtagattcg  1020

agtcgcgaag cgcgggttga cctgcatacc cgcgaacccg tcggcggcct cagtggtgaa  1080

gtagggccac atctcgttct cgctgttgag gaggacagga cgcgtgttat cgccgacgca  1140

gttggtgatg ccattgtccc accaggcgcg gagagcgtca ccgttgtgca ggccggtgat  1200

ggcgggcggg atgataccgt tggaggtgaa cttggacgcg gccgagaagc cagcacgctc  1260

gagccagacc tggttgaagg agatctcctt gtagatgtcg ctgtaggtgg cgttgttctg  1320

ctccaagtgg gtgaaggtgt ggctgatgta ggcgtagtcg tccaggtggt tctggaacca  1380

tatgagcagg ctgtccgcgt tcatgcaggt cgttgtccag gtgaagttgg tcggcgaggt  1440

tggccagacg tcagtgccgg tgccgatagg cttgacaaat tcgagggccg tgtccggagg  1500

cgagtcgtac tcgatggcgc cgccggagca ggtgctctca ccggccgccg tggtgccggc  1560

ttcgatgttg ccgttgccgt tgtggccgat ctcgacaaag taggtgcttc cagcgttgag  1620

tttggcgcgg atgctgggca gccagttggt gatgccgtcc atatcatcgg tcgtgatgcg  1680

gaagatggtt ccgctgggct ggtagatatc ggtctcaagg aacatgtcgt caatctgggt  1740

gttcaggttc acgcggcggt acccggcgtg caggccgcgc gtgatccagg tgatccaggc  1800
```

gtgctgcagg tagttggagg tctgggacca gacagtgtcg aagccgatga agaaggccat 1860

ctgctggcgg ccatcgaagt tgttgatgac cgcggccaca gactcgccgt caaccccgcc 1920

gccggaggca aacgacgcaa tcgccttggt ggtgttggtg tcggtgacgg aagccgtgta 1980

gtgccagaga cccgaggtcg agacgcccgc gctggagccg gtcttgaggc cggccgtggg 2040

gaagtcgctg gtatccgtga agtagacgag ctgctcgaca ccgtcggcgc agcagccgcc 2100

gttgccgatg gacgaggcgc cgaagttggg accggggaag acgtcgtact ggaccatgcg 2160

cacgccgtag gcgagctggt acgcgtacag ctggttccac tggtcgtccg tcagggcgga 2220

gcgccagtta tcgttaccgt agtcgtagct gacttcgccg gcaacgacga taccgccaaa 2280

gttgccccct gaggaggagt tcagggccgg cagctcgacg ccggcctgag ggaccaggag 2340

cgtcgtgaag gggattccgt agccattcag gccggacgag gcaacgctgg cctgcgtaga 2400

gtcgcgggcg atgacaagga tgttgttggc cagggacccg gtggccgagg gtgccacgct 2460

agtggaagta acagacatgc tgggggacgg ggtgactgta gtagacgggg tagggctggc 2520

actgggcgtt aaggtagaag acgtagaggg ggatgaggta gaggtcaagg tactagacgg 2580

gctagtgctg gaagtgctgg aagtgctggg ggggctagta ctaggactcg aagtcgaagt 2640

acttgaagtc acagtacctg aaggctcggg agtcgaggtc gaagtactgg acggctcagt 2700

ggcactcgtg ggatcaggat cactggtcga agtccctgga gtaccggtag atgaactggg 2760

ctctgaagtg ctaggctcag aggcgctagg ctctgaggtg ggaacgagag tggaagagcc 2820

agccgggtca gaagcactgg atgtgctgga gatagtagtg gaatcagcag aagtagaagc 2880

agaagtggca gtagcagagt ctgtgggcga gggcagagtc gtgagcgtcg tcagagtagt 2940

agatgcagag gacgttgcag tcaccgtcac tgtaggctca gtcgggccgg tgactgtcgg 3000

gacactgatc gtagatgcag acgaagcagc cggggcacc gaagtagttg agctcgtcga 3060

gctgggactg ggaggccacg gggaaagaac agtcgggcgt ccttcaggcc agactccccg 3120

gggcgtgtcg caggtaaata tcccaaagaa acagccgatc tgcagcacca gcgtgggagc 3180

gaccatctcg attgtgattg cgaactggtc gcagcaagga agcagggcag caggccagc 3240

aaacgaatga ctagatcaaa aactaaacga atgaaacgcg agacgtcaga tcgaaacggt 3300

ggagaacaac actccggctc cagtctccag tattatactc cagtcctgct acaatgcgcc 3360

agccctggag cctcctattt atgctagacc gtcgcggcct catctcgctc gcggtttcct 3420

gtctcacctt tgccggatcc accccgggaa tcggccggct ctgttgaacc agctggccgc 3480

catgaggagt gagggatcga aattaactcg attaactcga gaacggagcg agcaagcgag 3540

atggggtcat ggggtgccca gaggccagca gcaagtcccg atatacgagt cagcgaatac 3600

aagccataca agccctcaat cagccaatga cctatccacc catcaattaa tcaaacccct 3660

gccccttagc tgcagctggg ccagttcact cgtctctagt cgtagtctgc agtagtctac 3720

cccgttgaat cagtcgc   3737

<210>   5829
<211>   3239
<212>   DNA
<213>   Aspergillus nidulans

<400>   5829

ctgtatgctc gtgggcatct ttgtgagcat cgcgagactc tctccacggc tcgtccatct   60

agacgagatc gacggtttta ttgatccatg cgtcagccca tggattggtg ctagtcgaca   120

ctgcactata tcgtcaaaaa cctggctctg ccggttcttt cgctcaatcc gtctttcccg   180

tattcccttc acactagaat ctcggatcgc tgcactacga gagagaccac cgctcacgga   240

gcctcgagat gtatgagcac cactagaccc tgaaccattg gcttcccaag aagctatctg   300

actcggagtg tcaacaagtg gcgctctgtc cggtttgggc gcaggctcgg aaagaccttc   360

atctacccat cctgccggtg ttggtgggat gctacccaac ccagttccca agaaggtgc   420

ttgacgtgct gtgcgggtag aggcctgcga gctgcgcgaa gatgacgcat cacccagtcc   480

gctcacgctc tgcgatcttg gagccggcgg agggcctgga ggtggcggag gaagtggcat   540

cccccggctcc caggctgcgg tttgtggcga gccacttcta gattggcttg tagctcttga   600

tgaccctgca cttgatacaa cgggaccggc cgagaccgct cgtctggaat tcggagcacg   660

gctcagatcc tcgcgctggg cggttgcggg aatgtagccg tatccgctcg cttgagagcc   720

ttgtaaactg tcttccgaaa acattacata tgggcgagat ccgctgttga aagattgctc   780

atggtacgca tcagcccggc tgtgagacga tgacctagac gccggtgctc cgtgcggtag   840

cggaggcggc ggtggaagcg aaacctggct gttatggccc gcatccggac gggcaacaga   900

taagggacga gtccgcggga ttgactgttg ccgactgccc atgtacggag atccggcatt   960

agaagacgta gattcatgga ctggtgtagt atgacttgca tggtccgctt gctgctgctg 1020

12062

acttggaggg gagtacggtg gagggggga tgacagctct aatatcaaag tcagctccac 1080

gcaaagataa tacctaactc actgcataac gctgatacac gaatcaaaat catcactata 1140

actcaagaaa gtaggactga ccgggttgag cggcgtatcg atgctgtgag acgacccgaa 1200

gcatattgcc cgactgtgaa tagggcgact ggccagcgtt catcggacca ttactgaccg 1260

gcccccagtc ctgggggtta taaggggcgt tgtactgcct ggaagccatg ggagaggatc 1320

caagtaccgc accggctgag ttaatagcag gtgattgagt aaaagggctg ataggggacg 1380

tggtcgacag cggggttgat aagtagcccg caccgagccc gacaccaagt ccctgaccct 1440

ggaattgatg ggtattgaaa gaggtagtca aaggaggcgg ctgcatggca tattcgcgac 1500

ggccaggaga aggctgactg cgaggcgtcg gccagccggt gttggctgtg tacggactgg 1560

acgacagatc gtcgccagtg ttactcgggg accgccagct ttgagttaaa cagcctcaag 1620

tcagctcgac aagaacaaag aaaggagaga agagggagca ggggccgggg cgcacctatt 1680

catactggcg cattcaggag ccaaccaaac atggtggcat ggttaatgcc cgcgcgttgg 1740

aagggtgaag aggcgacagg tcctttggag gaagaggagg aacgcgatac aaacggcgaa 1800

ggactctagc gggatgatgc ctagaccaac cattaccgaa caaggatgga ttcaggaaaa 1860

cagggataaa aataggtcag gatcggtctg cgactctgcg tggctgcaga agcaggagag 1920

cgtagcgtat gcagcctggc ccgtttcatc acagccggcg tcgagtcggc gcttacaggg 1980

tccattggcg gcttctcaca gggccagcga cggcttctct ccacgtcgct caacgaacca 2040

gcggctttc tcgtgtccaa gagttcgaga ttagctgagc tagtctgggg tggtcgtagc 2100

gtatgtctat tattgtctgc cggtcttcta gtccattgga tgatctgctc agactgaggg 2160

gaagccgcac agggacggac ggcctgaatc tattagcctc ccactcgtga ctccatagag 2220

acgagggtgc caacccgaat attagggatt ttcatgaata taaccaaaga aagaaaagtt 2280

atcagtggct accgttgtat cggccacgcc ccgttcatgt ccttctcgtg tcaggaatca 2340

aacgggatcc taaatcattg aaacttcgc aagaatgaaa gattctggaa tcgtgtctgt 2400

tttggagtac aagaggttga gtagtactca tgagtgggga aacagaagg tacaaagttg 2460

atgaaaatga gttgtggttg catgtgccat aactggagat actccgcaga tatcaggcgt 2520

ccgtcggtgt actgtcgcga gtggaaggga atgaagatag aattgggaca aagcgcaaca 2580

atatacgcat caacagcgaa atgactgagc ggtcaaaaca gcaaccagac tagtctcaga 2640

12063

```
tcaattatta ccatttcagc attcctgact taattataaa gaggaatttt cactcttacc 2700

tgaacgaggc ttctgctctt cgtaagagga tgcggtgaga accactgtac tcttatcttt 2760

ctcttcgtaa tatcgtatca agtcgtaaat tctcatatat acgttaacgg acagggcat 2820

agttgtggtg aaactgcatg gacgactttg gtgagatcta ttattgaact cgggagatac 2880

tccttcgttt gatactgtcg acagcatata cgagctttac aggggtgaac atatattttt 2940

cacttttcat tatttttttc tcttttgtga tcacacaggt atttatttta agaacctagc 3000

cagcaaagtt ccagaccaga ccaacgggac aactccgacc ggacgccagc agcttagaaa 3060

ggcatcttca tgtggaacat tcatctcaga cgatatatag acgatgtata gcgtttatt 3120

tcttgtattt gttgtatgta tcgatgacct tctgcacctc gtcccgagag ccgaggaaaa 3180

caccgctctt gtcgtggata gactccggct gaacagagag aaggcgctcc atgcgtgag 3239


<210>     5830
<211>     5849
<212>     DNA
<213>     Aspergillus nidulans

<400>     5830

atactctaca ccttgacgct ttgcgcacct ttggcgtaac cccgtcccaa cttggtcgcg    60

gtcggcatat ccaccgaacc ctacctcgac aacaggacta acacggcgtt agtggtccta   120

aacaatacac acacaaggat cgaccctacc cagttatatc tcgctttccg gcccccacaa   180

cgaagatgct atcgtcccca cgtagtttg acgaccgatc atgccattgc agactagctt   240

cgagcacagg ggagtcgtcg aaaccatgaa gaacggagat cagttgcagc aataccacgg   300

cgaagatgaa agttccgaca aaagcaaggt agagtctgaa attcgccatt tttcagtcgc   360

caacgaggac gtccgccttg tcagatactg gcaataaaga ctaccaccca gcggcaacgt   420

agggcggact aagcttattt atcttgctca aatgcctttg atcagcgcaa ggccgaggac   480

tgagctttga ctgtgcctga acgcgggccg gaggattttc aagcccctct tgagttgagt   540

gagggcggat ggcaggaatg cgtgattggc gttcagtttg ttgaagatag catcgaagcc   600

tgaacctgct tatcccccgg ttcagattgc attcgcgttc cttctgatgc gttttgattg   660

gtgcactacg aaagctccgc gccgtaaaca gaaggatttc tcaaaaagcg agggtcatct   720

gctgatctcc tggccttgtg cggagaaatg cgcactgaag gcagcggcga tcttcagcat   780
```

```
gtgctgtcgc cgactggcat accaaagcgg aactgcacat tcgccaatac cggagccaat   840

caagtacagc aatcacgcgt gctgagacat gaacgtacta gagcggtgtc tcagaagcgc   900

tgtaagattc gatagtataa agtactatcc cggcagcgcc gattagaaaa cgatgatctc   960

accaaggccc tgatacctgc aatctgcggg gcgtccagct ggatggagcc ttggtgttag  1020

atcgtgcctt ctcgatttgg acgtaagtcc ccgcacattc caagatggga taagtttctg  1080

cattctggtt ttagtaatca tttacacgtg acgactcagc atccatgatc aaaagacaag  1140

cttcaaacat tcaatcaact gaagtacttg ccattattac ctgagccatt ccactatccc  1200

tttcacagtc tcaaagcagc caagacagct attcacgatg cctttggtcg atgaatctca  1260

cgactctctc ccgtgtaaga gtctttgtgc gaactttgaa attgacgtcc taatacggtg  1320

tagatatcga tgcaacgccg tctgctgagg ctcgagctta cgcggagaag ttgatcgcgt  1380

cggagctttc atcagattac cagacctcag tccatccctc aattcccgaa tttcctgagc  1440

ccaaattctc gcccttgatc cagcaggaaa tcgagcgaaa ggcagctggt ctgccattga  1500

ctggaggaat cgatttagcg cgttacgagg cccctgagcc acctactcgc tccgcggatt  1560

ccgctcccaa cctcgatgag tggcgacaga cgctgcggag agcctacact gctagctctc  1620

acttgtcatc gcggcaggag aacctttcgc ttcttgaaga aagcggcaaa aatgcgtggt  1680

tgattggaaa ctcacagttg gaggacatac tgagggcgct tgaaaaggaa ctggcagaga  1740

ccaaggaggc aacagagagt gtcaacaaac aacgaaagat tgcacaagaa tcttgtcagg  1800

gagaaatcac tgggctggaa gagtcatggc gacgtggtgt tggtgccatt cttgatgtgg  1860

aacttgccgc cgaggatttg cgaatgaaga ttttggagca aagacggcaa catgctcagc  1920

aacaggcacg gtaaaagtgt catgccctga ttacggatcc gatgttgccg acttcctcta  1980

cgctctggtc agctttattg tcgggtgaag tcaaacagtc actttgagat ctttccaaga  2040

ttattgacct gaatgggccg ggcgcacgtc gaagacttat cacggtcacc taaccataaa  2100

tctaggccag ttttcaaatt gcaagatgct tcgaagcgct ggaaccaccg atgacacaaa  2160

ggttgtaccg aatatcgtgt ctcatcgctt cgctcagtct gtcagattca atcctcggag  2220

actagagctt cacaaacccc gccagttgtt gcacagtgcc gatctcaacg ctggaacggc  2280

tttcggctca ctaagcgccc tcgccggctt ctgagtgtat ttaattgggg ttggtgctct  2340

ggtagggctg cacccggcta ttctcataga tgtttcggcg gtacgaacta gttctgacag  2400
```

```
taatcaagtt gattaatgat atgtcacccg cactttttcct tgcatgagta tcacttgaaa 2460

tcactactac taaggagcct aagtcgctgg tagcataatt acgggctgaa gggttggctc 2520

aagattcatt caatccccat ctgccccgaa ctatcagtac ggccttacct tccccataat 2580

agcagcagct ccctttttcca cagcaagctg gttccaatgc accaattcct tgcatgcccc 2640

atctagcgaa gtcaacggtg ggttataccc cagtccccca tcttgcggat cctttctcgc 2700

gcgtccatca tcaacaatca gatggggatt tgaaatggca aaaactgccg gctgtagtct 2760

cctcaagtcg ctcgtgactt caggaagcca gggaaagtaa aagagacgca gaaggacata 2820

ccactcgacg aaatgggaca gtataagcat gataacggga ggcacgtagg ggaaacggac 2880

gggcgttgtg gccagcgtcg tcatgagcaa atacaaatcg ccaaatgata cagctgggtt 2940

tggatctgtg acgatgaagg cgtccccgcc gatattcggc agggctgatg gagacgctgt 3000

atgttcgatt aagcgttgct cgtagaggag atgcgcgatc gagacgtttt cagcattgac 3060

gaggttttgg attacgggat ggagccagct atgagagtta ggtctgatta gggctttgct 3120

gaggagatat gagggctagg attcttacgt tggaccgccg cccatcttca ggtacaatcc 3180

aatgattgtt gcgctggact cgctaccgac gccagagatc ccattcgcgg gtctgatgca 3240

gcccgtgcgg aaattggcct tgatattgtc ggctgcacga acgagggctt ccgcttccag 3300

tttcgaaatg ggatacgtgc cgaaaaactc gtcatgctct ttgggaagtt cggtttcatc 3360

gctgaggacc tggacggcgt gccgcggcgt ttttgcccaa ggggaaatcc agaatgcggg 3420

ccgccgcata cagacggagc cagaagacgt cgagatgaag cagctagccc cggccgcttt 3480

agcgttcagc acattgacag tcccgccaac attcaccttg cgaaccaagg ggaggaaggc 3540

cttgtggcga tcggctggtc gaattacagc agcgttatgg aaaacagtca acggcaggtc 3600

ggccacggcg ctgggccatg gttgcgaaaa cgcactctgc actgcagcct cattgacaat 3660

gtccgttttc acaaaggtca caccgagatc gagaaggtca cggcgcggtg gctgaagatc 3720

caaggccctg atagctgccg ggtcttcccg cgagctacga gatgcgagat aatccagtta 3780

ccaacgagcc ctagatactg gtaagcggct gagacttcac gctgccggga ccacactcat 3840

gcagcaggtc gatgagttgg ccccggccca ggttgattgg caacgaacca gaacccccaa 3900

caacgatata gcgccggccc tgtttcgggg gcaggctttt ggtaacatca atcgggctct 3960

gcacggcctt tttgtatgca gccttgatct gatcgacggt ccagcggtgg ggcgatagcc 4020
```

12066

```
tgcgagcctc ttcagggaca ttgtacatgg ccttattcac atggttgaga tagatgaagc 4080

caattgcggc gatgcatagc gcgattacag ccagcatgaa gggcagattt catgagctag 4140

tgcaatccgt ccgcccaggc cgatctcaca agcacttcac gtacgatatt taccagcctc 4200

aagatccctt tggctcgaac gcttcgttga agagcgacgg aaaattacag gaatcgaggc 4260

gcccttctca agccaggatc gagcatttaa gagcgatgat cttgtcgaag cgaagcggac 4320

agagcggacc atgctcgtcg gctcggttag agagcccctt cgcttaggac tggtccactc 4380

gaccgctctc gtatccaaga ttattgttta gaaagattca agttaggaac aaagcgaaga 4440

ggagacaagc tagccttaaa gccgtttccc tcaatttggc gttggtgctg gctatttgaa 4500

gattaaaaaa aataaaagaa aagaaggaaa aggaataata atttaagtaa ataaataaat 4560

ttaaaactaa aataaaaaaa aaaataaaat aatataaaaa taaaaaactg atgatagcga 4620

agagtgcatc gagttaattg agtgcctcat caacaaaggc actctggact ggaaatacag 4680

ccttcctcgt tgagccgcgc cggctctgag gaagcccctg tcccgtgttt ggaaccaagc 4740

agataagata taaaatatat tatatcgcca acctggacct tgcggggtaa atgtttgttt 4800

tctgctggaa cgactatgcg gggatactgg aatcagacag acgaccgagg caggatgggt 4860

ccgacaagaa ggggcaggcc caagatctat aatgtcatat gatgagaaag aatcttgagg 4920

atgaggttgg ccaagctaac aagctaaatt ggcgttcccg gtcccagact agatgaggcc 4980

agactacatc cctcgtctac tgacagtact acagtcagga tactgtaagt tgcaccaaag 5040

ttaactagca cagtagagct ggaaagcagg gcacgtgact accccggcct tctggccgaa 5100

tacgagtcat gcagaggctg gagaccgggc cttcgtacca gccagttaag cctatccaga 5160

aaaccggtcg tcagggatgg gctttgttag acctcgtgtt gcgaagtgtt tgtcggtgct 5220

gcactctacg gaagaccgcc tgcgtccaaa gcaaagcagg agcgtgggta cccaagcaca 5280

gctgcatgag tcaacgcgtc tagtctcggc atgattccgt gcagccagag ctggcccaac 5340

taggcctgat ctggcctggt ttggcctgat ttggcctgac tggcctgact aaggccatac 5400

gaaggccatt ctggaatgga aatgcttggc ttcgggaaac cggcaccggg gcaagggcgg 5460

ccagccgcaa tcgatgtctc ttgactgggc gaatatccct cgtctttacg ttcaggggcc 5520

ggatgcggtg tccttaaaat catggaattc tcgtacaggc agtgccaagc aggctcctta 5580

gtctatgcac ttgctagcca tgcttactag atgctaacca tattgaaaga cgatgttgag 5640
```

```
aactggataa ttaccaagat ttcttctgtg aaccataccg aagtactcgg tactcaatgt 5700

atgtacccaa agtaacaaac aggctcggct atcccccgtg gagtcggcct cttcctgcta 5760

tggggcgacg gtgcgatccc tatagtgagt cgtattatgc ggccgcgaat ctgcatgttg 5820

tcagttgaaa attcaacacc cccctgagc                                   5849


<210>     5831
<211>     4394
<212>     DNA
<213>     Aspergillus nidulans

<400>     5831

tggacaagaa taatatctgc ttcaaaggag agtagcaggt catgtacagc gccccccctt    60

cctatattag cttgtagtat tttcatagtt caggggaggt cagggtttgg tttaagagct   120

cctgggtgag ctgtcttgta ggctggtttg tagtgtgggt attatctgtt tgttatttag   180

agctttcttc tgctttcttc tgctcctgtt ggaaggcaag ccggcctgcc ttgcggatag   240

cagctagagc atcttttgag aggcgggtga cagtgttcct ctggacgtgg ggtctggctg   300

ggcatttttg gaagtccgct gcatgcgggc cgcagtagtt gatacactgc acacagcagt   360

tgtgttcctg ttttaaggat ctgcaggaga tacagcattc gctggagcgg caggctcgtg   420

tatcatggaa gtagtagcat cgggtgtatt gcaaaggcct ttgcttgggg cgggtgggcc   480

ttgataggcc ggacaggcca aagagttgca aggggtgttg tagccttttt ggaaaggcta   540

tgactgctgt gatagagtcc ctctctactg ggtgctttga gagtttggcc atgagtggtt   600

taataccagt aatgtgctct gcttcattgc tgatatctgt aattatagta tctatctatc   660

catccaggga ccagagttgt ttcaggatcc aggggacaat aacctggtaa tactctgttg   720

gtatttcaaa gtatccatcc ccagctaggc ttacagcctt ctctgacagt aagaagacct   780

tgccttgttc agttgtagta attgcatatc ctgttaatat tacttgcacc tgtgcgatcc   840

cgtccggaac tttccctgca agggtgaccc agatgccatg tggaccaata gcccggaggc   900

tagaggaggc cgggaggtgg aagaagatgc ggtggtcagt cttgtttgac tgcttcagct   960

ttcgttgtgc tggttgcttg gcttgcgtac ggtgttctgg ggcaatagtt tgccagttcc  1020

cctgaccagc tcttggggct gtcaggatgg cccaggttgt aggctgcgag gtttgcctct  1080

tcaggggggcc ttcgcaagcc tcaggagtgg gaggttggtt tggctgttcc atctgcctgg  1140
```

```
atggctgtgg gggtgcaact gctgtcatca gaggaatctg ctgaggggag tcctgttttg 1200

ctagggaaac aaatctggct gcaagccccg ggccaggtct cttgggcggc cctgtagaga 1260

ggagacagtt agatctagag ctttagcaag agaggtcatt gctagtttcc aatcattaag 1320

aaggactagc tggtcgtctg ctaccatgct gacctgctcg cagatcaatg gggcttgcgg 1380

caaataggat acagggaccg gagctgcagt gggagtcttc tgtggggaga ataaggccct 1440

tctcttcagg gagttccggg gtagggggt cggggtggta ggtcctgagg ggggttcaga 1500

gttttcaccc aggagcggag tccccggacg ggctccgcct ggggggggagt catccacctc 1560

catggggtgg agggaatgat cgatgagcaa agcgtaagag atcagttatt agagcagtag 1620

ggggccctgt tctcccctcg tcgtggtttt tgtgcgcagc agtcacgctg ggagcgttag 1680

ccagcgtgcg gggtagcaaa atcacgtggc tgccacggca agtcaggagg gccttgtctt 1740

tatgtacagt acatgaagct gacatgtgag gatcacagat gcagtcgcag ataactcctt 1800

aggctgctga gtaaactcac cttactgcaa gctggcccat agtgcaagaa ccgaaaagtc 1860

aaatatgaga atgtaatcat catgataacg aaggttttcc agtatggaca gttttgtagt 1920

tctttatcca gcccgaaagt cttattctat taagtttatc tcctgctctt catgtcagcc 1980

agagctatgg tgttgtagtg ggcagacgct ttcttcagct tctctgctga aacagggttg 2040

tgaaattttt tttttttttt tttgagctgt gaatgttaag cttactgcct cattgtttca 2100

gactcgctgc gagaacaatg tacttggaca gtctatctag ttagattcca attgtgaatt 2160

gtggaatatt gtcaatcata ttctatgagc agtcaatgtg cccggaacag gcgctggatg 2220

gtctttagca actagggtta ttgatggcgc gggtatactg gagacactca tttactgaca 2280

gcatgttgcc ctaccccaaa gacaatacct agtgatgccc ggacaatacc cgtgacccag 2340

gcggtcggct agggtagaat aatgaatgat attactagtg atagcttcag agaacacaag 2400

aatccataat acttcataca atcaaatcag attctttgca gaacttacaa caactaactc 2460

ctagctgttt ggtagccact tgctggctgg tttgcaatca cttagacagc attctccagc 2520

actaacaact tgcgtttcca tctccgcgat caacatggct gcaagttgga ggaaagcaaa 2580

gcgggtcgcc atgccctcaa gacaataaat ctgggcattc gtaagggtgc ctagatactt 2640

gaaaactact tgtaggtatg aagaatggta caggggcctg ttgctcgtag aaatgagcat 2700

gaagccgttt cagcagcaca tcatcgtgtg agaaggatgg gaaagtgata tcaatctcct 2760
```

```
gctagctact tggtaaccat ttgctgactt actcaagtcc accattttaa catgcgcatg 2820

atggccaaag agcttgacca tatgctgccc tgcaataaat gttcatctgc cgaggattgc 2880

tgcaaggatc aaaatacgtg tgagcacttc cgccatttga ttctgaactg aagaggaagg 2940

aggacgatga agactaagac gcactaccca gtaactatgg gttcgattgg gcgttatgaa 3000

tcttgaaata taagtgattt tctatccgtt gctagctagt ttaaagctat ttagaaatca 3060

aattcctgca gtcttctccg tctttccata aattccaatt ccttctcctc attttgaagt 3120

tgaagagccc gaacttcttc ctcttctctt ctcagcttaa tctcgatttg tcggagctcc 3180

aaggcctgcc gctgctcctc gaaagacaat atattcactg aagggctttg aaagctttcc 3240

gaaggcgatc taaagatttg ttaaatagtt aacaagcagt taccagacca ctgatattct 3300

tggaagtatg gttaggtctg acagaccggg ttatccttgg tcgggtttgt gacctacgat 3360

caaactgtga agataaatgt gctgatgatg accgacggcg ttttcgagat tctagaatag 3420

ttaattgctg atataatata ttgatagaga agatacctac cttcacgagc taaatggcgt 3480

agataattag cttccatatt tgctgtccta tacgagtgat gaactccaaa gtagtcacgg 3540

ttttgatact gaatgatatc ttgcttgtca agctttgcag agctatatta atgcaaatag 3600

ttagtttgtg attaggaagt ggttagaaag tagttagtaa gccaataact tacttctgaa 3660

cagcctcaat taatgaaagc tgtttaccac cagcatttgc tttatggtgt gactgctctg 3720

ctgaattagt atgatttcgt atagaatcat acaaagatga tggaatccta gagcagtttt 3780

tgttaagccc agctttaata actgcattct ttttatgaag agcccaattc tttatttttg 3840

ggtcctcata tgctaggata aattgttaat aagtacctcc caaacattta caaaacactt 3900

acctgcaagt aagtcacata actgatcata atcctcctct gatttgcaat taaccagact 3960

tgccatgcga ctccacacgc ctgttccttt atcgtcatta ccaacaatct cagtaatagt 4020

ccggaaaaaa tggacccggc agaaaataat gatgctctgt agttgccata atagagaacg 4080

atggtaggga tcaatctctt taagataccg agccaggcct agctagttgt taactactta 4140

tcaagtgatt cctaagtggc tgattaatga ttaacccacc agcatattgt ttcgtgtcca 4200

tgtcaacaat aattccagat attccatttc catggataga attaaattcc acaggttgac 4260

ctgttacttt ctcaacaaga gtaaatactc ttttgaataa aagatagtag cctgttgtag 4320

tttcttggtt cgtaaacaca cgcattaagg taataactgg agtagtttgt aagtggcttc 4380
```

12070

caagtagttg ttaa   4394

<210>   5832
<211>   14101
<212>   DNA
<213>   Aspergillus nidulans

<400>   5832

gccgtatgag cctacaagct atatcataca tgatgtctcg cgagccatta ttgttctaat   60

ttttattaga taagtctgtt gttatacttc gtgtcctcca acctgctcta cagatcatgg   120

aaaaacctct gcacaaactg ccctctttct ctctctctat tggtctcgat aggaaccgga   180

aagttgatgt gaaaagtagg accgagctca gttttcgatc cgttcatctt cgtaagaagc   240

agctcaaacc ctctcctatt gacagaatca attcctcagg cttcagaatt ctcttaatag   300

catgtttccc tattggttgt cccagctagg cccttttata taagcttcac agtacatgga   360

ggactaattt aacaaaaacc cacaacagca aaaacacctc gccacaatgc ctcgaacgct   420

ctataattag cagtgtatac ttattctgct attgcatatt ctttactcac agcaggctta   480

cggtttatgg ataaccaaga tgaatacatg cttgctgcgc tattcaagat attttctcca   540

gctcgagaag agtttttagc ttagaggatt ttataaattc cacagtcttt ttttatccca   600

aatcctagtt tctatgagta ttcaatatat tcttccttgt tctgtttctg taggatggtt   660

gctggcaaat ccaaggctct attaataaca ggatagtccc ccaaccctcg ccagcgacgc   720

gccaccttcc aaagcttctc ctgaatgtcc cgattgaacc tattcatctc agactctaat   780

agacgagcgc agtgaattat gatgtcaacc gcactgttac tgcctagcga gacaattcca   840

ccggctgcgc tggagaatac aggggtgagg atgcccatat ccatacccat acccacttcc   900

gtttgcccgt ttgagtacgc cacaaccaat gggtactcgt ccagtagcgc atccagtata   960

ccaaggacag tattagttat ctgttgcttg tgttctgcgc tattaagtga atcccactac   1020

cgtaagcagc accggcagtg ctcatactaa ttgctcaagc aatcagcgct acccggtata   1080

aacggggcca cccatcaagc tggtcggctc ccctcgggcg tggcgtataa ccgcagaacc   1140

tgcccgcaat agacgtagtt ttcgcgcggg ctttctaagt ggtatgggcg ctttgacatt   1200

atggtgggct tccaggatgt ggttggagag ggagaagcag ggaagctgct tcatgcgact   1260

cgctcaacct cctggaagct gaccatagta ttgagcatga tgaggtggta gagggtcatg   1320

```
ttggcgtttg cactgtatat tcaggggggcc cctagatggc cattgctttc actagcggaa   1380

gtaccagatc ctgcaaaggt gtgtgttttc atcagatcat acaacctgtg tatcagctcc   1440

tcgacctcct ggcactgcat agagagagag acgagcggtg ggttccggcc tggtcgctgg   1500

gaaggcttga agctggtttt ctttgggccc gggtacgtac tgagttatgc cgtctatgcc   1560

tcggcggagg ttagccacga catgctaaag gtggcaaaac agaagccgca ctggggtctg   1620

agacacgtgg ggaatggctc tgacgtcgct tgtgtcttgg aagcatcgaa tatatttgcc   1680

gagagaagag aaataatact gctccaggaa ataatcgttc tctgccggcg tggtgatgat   1740

attgagtgtg attgtgtgat gccctgcata caattcgtcg cggattgcag acgccaggta   1800

acgtctggac ttgggatgag cgcgtcgaaa cccgcgatgg agaggctggg ggtggggggt   1860

ggctctggcc tgctgcaacc ctgcttatga acggttctaa tcaacagtta ctgacagcgt   1920

aaacaattcc aggaacaaga acgagtgact ctcacctcga aaaacattgc attcagatac   1980

caggcgggct aggtgctagg atgacccaac taaggctttc cattcattat ctcaccccca   2040

aacagtcgca gctgtacgca gcaatgcaca ctgtaagaac tcttgctcag acgctaactt   2100

ctaattttgc tcaaacaggt tgcccagcga aatgcggcat agctcgagca aaccatagcc   2160

aacctggtaa cgggactccc cagccccagc cgccatgggc ccgtaggcgg gatcaggagc   2220

aggaaaagaa tcaggagatg tgtgtcttta aggggacctc actgcccggc gttagaggtg   2280

atcagcaacg cctgtttctt accatcgcgg taatgggtgg cgaagtccga gaggagtaga   2340

gaaggataca gaaatagtga aaatagcccc tacctgcagg taatctatgt ttctagcctt   2400

tacagcgaga gaacttacgg tggagtggcc aagttgtctc tgcatttaca aggctgggaa   2460

tccatttacg aatgcgtgca cccaagcccg cttccaagtt ggcaggcgaa taggctagac   2520

tgtaaccact aaaaggaata gtacgagccc tgaagtgcag tggcaatggc cagttggcaa   2580

aactagtagc cgcctgactt gcagttttgc gtgtgtacag cgaccttagc caagctgagt   2640

tattatatat gctacatcct actgagaaca tcaaagattg ctgtattgat aactgcatga   2700

ggctcctaag agactaacgg caggcagcat ggtatcgcc ccagtaacga tcttacgcca   2760

accttcccag cgatctagat gcgcactacc gtgtagggct gacttggaag cgtttctgga   2820

tctctcaatg aggatgcttc ttcttatcag tggggttatc cttttctttg accatttcct   2880

gtaggccatc catatagcat tgagccggtt atctggaaaa tatgcaaatt cgtatgagcc   2940
```

12072

```
acgaccaatt tggcgtcgtt tacgcgcgtg tggtcaacca acaccccgaa aagcaaagct   3000

aaacacgcac agcatactcg atacctaacc ccagcaccca aaacacactc gctatcaagc   3060

aggatgattt ggcacgcgac tccacccctg ccggtccagc ctgcagcgat gctcgcagga   3120

acctccaaaa gcccacaatg tgcccaccca cagaaaaaag cacaaacggt actcgaagcc   3180

caccaagcac gcctccaaac agtagtgcca gggaactgat ggcaaaaagc gaataggcca   3240

tcgtttctac acaatttcgg tatcgcacgg ccatgctctt cacgccgact ttgagatcct   3300

cctctgtgtc ctgacgcgaa taaaccaggt cgatcatgac aatcacggcc gagaagaaaa   3360

cgcacatgca gagcattgag aggatctggc tcgaaggctc catacctagg ctgtgcatgg   3420

ccatgggaat tgcccaggcg atgttaatga ggatgagctg agggtgatcg gtgaagcgct   3480

tcccgaaagg gtaaagcagc gcgaagaaga ctttaatgcc ggcgtcgaat aggcattctc   3540

gcggaagaaa gagtaaaagc gaacaaccta ggacgaagag acatgctgtg aagatggttg   3600

ctgcggagag cgaaatggcg ccacggggga ggggcggct ttgtgtgcgc gaaatctgtc   3660

ggtcaatgtc gacatcgacg agatcattcc aggcgcagcc agcgctgcga aggataagag   3720

accagagcgt gagcaggagg aggcgatcca agagtaggtc gaggggcagt tttgtttcgg   3780

cagttgcggc agtgtatgcg attccaacta cgtagggaga tgtgttgagg taataaccta   3840

gggcgcggtg gatgcgcacc agctctccgt atggaacaac gccggtaggg agatatctga   3900

gcagtcctgt cttgggatga tgtctcttca attctgagat gacggccatt tttttttctt   3960

tcacaaaagg tttgggcggt ggagagagga ggaggaaatc aagaggattg agcgcgccct   4020

ggggtgttaa aggaacatca aggccttggg cgatatagcg ccgggaagca ggcggcctct   4080

tcaatatggc ccagtattcc gccgactcgg aaataacggg gatatctctc gaaagcctac   4140

ccagtaaggg gagataccac tgacaagggt tccggcaatc atgcatctag gtcttcagaa   4200

tgccattagc aggagatctt tctctccatt ggaaagcctg agggccatca tgcccggaga   4260

gcctgaaaga gcatccgttg tgtgacaact tctatcatcg ttgatgcaca tagcaagggt   4320

gaaaccaact tctcggcaag ggtgggtgct tgtattattt ggacccatag cttgctgcta   4380

gccaatgaag cagagagcgt ctcgcaaggg atccttatgt tatgagttgt gcaagcagca   4440

taagaaccaa tgtggacggc tctcatagct gctcagcggg ctaggctcaa ttatcctagt   4500

tactataatt aatagaccgt agttagctga tggagaagag tagttgcacc acaccgatga   4560
```

```
gccacaatga gcgatacacc tacgcgcaag actgatcttc gtgtgataat agtcggaggg   4620

tctgtcgctg gcctgacgtt ggcacactgt ttagcgaacg caaatatcga tcatatagta   4680

ctcgaaaagc gcgctgagat cagcccgcaa gagggagcgt tcctaggcat ctggcccaat   4740

ggaggccgaa tctttgacca gctgggcgtc tatgcagacc tggaaaagtg cacggtgcca   4800

atacacaaaa tgagggtgcg atttccagat ggggtctcct ttagcagtga gctgccgagg   4860

caagtccaag aaaggtttgt tgcttctaaa cactgtttga acttgatacc gacgggaatt   4920

gtaggtttgg atatccgatt atatctctcg atcgccagaa agtcctggag attctctaca   4980

accgctaccc ggccaagtcc aacattcacg tcaacaagaa ggtgactgag attcgacaaa   5040

ccgaacgaga agcccaggtg ctcacagccg atggggccgt atacaaaggg gatttggtcg   5100

ttggtgcgga tgggatacac agtgcagtgc gtgccgagat gtggcgccag gccaaggatc   5160

ttgttggtcg gcgagatcga caaggtgtgc tttgcaatat ctcctcattg ttgcagacgt   5220

taatcatgag attgcagcat tcactgtcga atatgcatgt gtttttggaa tttcgagccc   5280

tatctccggc ctggagagtg gggagcatgt taactcttac tcgaatgggc tctgtgtgat   5340

caccttccat ggtaaggatg ccgtgttttt tggtttatc ctcatcaagt tacagaagag    5400

gtttatctac ccatttactc cgcgcttttc agccagcgat gcggccaaga tttgtgccga   5460

gtatgctaat gtaccggtct ggggggatat atgcgtgaga gatctctggg gaacaagac    5520

gtcggtctcc atgactgcgc tggaagaggg cctgctggag acctggagat tcaagcgcgt   5580

agtcctgctc ggtgatagca tccac__ _t g__t__tt__ __gtatcaac a__c__acag    5640

caggatgtga ttaaccagtg tagatgacgc _ __at_gg gc__ _ ____        ag     5700

cagaagacgc aggagtgctc gcatctctgc tacaaagact atcgacttcc gactcgtcgg   5760

ccacgagttg cacaatagac gccgtgctcc aagaatacgc ctcgctgagg tacgagcgcg   5820

tgaaaagcac ataccaacgt gcgtactttg cgccaggct gcacacgagg gacgacgcgc    5880

t_aaggcctt tgttggccgc tacatctttc ctcgcttcag gcagcaggtg cttgagagaa   5940

cgt_gcaagc cattgcaggt gccctcagg tggatttcct gcccaccccg aagaggacgg     6000

gccct___t__ gagcgactac gccgggagcc cagaggttgg cgcaccgacc ctcccttggc   6060

tggtgatttc gctaccagtt ttggcttcaa tgttatgtta tctagtctac tctagcgtat   6120

ttgtcacgcc aattttttcct taggtcagaa caggctggaa tgtgctatgt cggatggaaa   6180
```

```
ccatgctggc tgggattttt ttattgctat tccatgttag acacttgaat tacacaaagc  6240

ttgacgagtg cacaattgct gagactatca ctggggatgg caattgcagt cattctcaat  6300

cggtaagaat gcgtatcccc tgcttaggca cctgccacat gagcccgttt aatgtcgtaa  6360

aatacataaa tcttactgaa atgcctcgga tgccgcagct atccgcagca agggattatt  6420

tctgaggccc aaatgagaat tctccctgtg gttacatgcg atgatcaaac actcgcttcg  6480

aataagacgt cctccaaccg cgatgatttc ttcaaagctt caaatttggg actgacaaag  6540

gcacggataa ctcccgaggt ctcagcgttc cgtatttgcc tcatctttca gccaatcgcc  6600

ccttgaccaa agatgcagtc cagcctgctt ggccgaatga caggcgtcac aggcagcaga  6660

agcaagcgcc acactaagtt tcgccttcgg cgtcttcagc aaccgcccac cgagtcaacc  6720

accagacttg cgagcccgga cgacgcccaa cccattgagg agacgaaatc gcaggagcac  6780

ctcgagcaaa gtgctactca gggcctaagc gaagcatccg gtgataacaa tgcagggggt  6840

gcccatccaa cgccagcgcc gaacgaggga gatgcgccca cggtggccga gctccaacat  6900

ggttcaaatg accgggtcga cgacggcaca agtggctctg gtactgtatc aggctggaaa  6960

ctcgccgctg ttctcattgg attatcactg gcggtgttct gcatgtccct agtacgtcct  7020

ggaaccaacc acattctccg catcaaggat gtactctaac agatcaatgt ccaggacagc  7080

acagtgctat caactgcaat ccccaagatc actgctgaat tcaactcgct acacgacatg  7140

gcctggtacg tgagtgcata caacctgacg ataagcagct tcagcctcgt ctacggcaag  7200

atctacagct tgtacagagt gaaatgggta tacctgacaa cgctattttt gtttgaagcc  7260

ggctcactag tctgcggcgc cgcacccagt tcccttgccc tcatcatcgg ccgcgccatt  7320

gccggcgttg gtggcgcagg ggtattcctc ggctccatgc ttattgtcca cgaaatcatg  7380

ccgctccatc aagtgccact gtttatcgcc cttattagcg gtctgtacgg tatcgctagc  7440

gtcgtgggtc cccttcttgg tggcgtattc accgactacg tcagctggcg ctggtgcttc  7500

tatatcaatt tgcccattgg agggttgaca gcgtttatca ttgttctgtt cgtcaggccg  7560

cgggtccgcg aaaaggctac agtaaagaaa accccctggg cgcagttgct tgatcttgat  7620

cccctcggta ttattctcat ccttcccgcc gtcatgtgca tgttgctcgt acttcaatgg  7680

ggtggggcaa aatacgcctg gagcaactgg cgcatcatcg tgcttttggt catggcgggc  7740

tctctggcgt tgacctttac tgctgtgcaa ctgtggcagg gcgagagggc tacgattccg  7800
```

12075

```
ccacgaatag tccggaatcg cagtgtctgg ggtgcaatag cctttcggt ttgcattac    7860

ggctccttca cggtctttac gtattatgtg agaacacccc cttgctactg aatccggatg    7920

ctaacatgga tatgtgcttg ccagctcccc atttggttcc aggccatcaa atctgtctcc    7980

gcaacgcgct cggggggtgat gaatcttccc atgatcctcg gcgtagttgt atgttcgatg    8040

ctctctggct ggggcgtcag ccgggttggc tactacgtgc cgtttatgta catggcaccg    8100

gtggtcggat ctattggcgc gggactgctc acgacactgc acgtcttttc cggaccggct    8160

gcctggatca cataccagct gttattgggc gtcggcatcg gatccggcat ggcgctcccc    8220

cttgtcgctg tacagactgc tctccctacc gacgacgtct cgacgcgtcc gccatcatca    8280

catttactca gtctctttcg ggcgcgttat ttaactttgt ggcccaaagt gtcttccaga    8340

gtcgccttgt gcataacctg aatgcggcgc ttccaggagt ggatacggcg agggtggctg    8400

atgtttctcc gagggagata cgcaatgcaa ttgagcccga gtacctccct caaactctgg    8460

aagcatacag tctagcaatt acacaggtgt tttatgccgg cactgcgcta tgcaccctag    8520

cactgtttgg ggtgctgccg atcaagtgcc tgtccgtcaa gggatcgaga atcccgccca    8580

tggcgcatgc ttgaacaagg gctatatgga ctttgagact tgtctcgtgg ctttttcgtt    8640

gctggtattg ttttctatgc tcttgcatat ccatcttgta caatatgtaa tgatctccat    8700

tttaggtggc acattggcat tcagagtgcc agaatacacg ttatcaataa tgatatagga    8760

atacaaggcc acgttatctc tggtggcttg actatacatc gcgtagttct agaaggtata    8820

gtggggggaa agaaaggacg acaggatgaa gaatacaggg aggaggaaga gatctatcgt    8880

caacaaggca gagaatcgat cgtcatatgg cgtccgattc ttagtaggct acgttcgtgt    8940

acttgataca gtttccttct ggcctttccc ctctgagcat tcacaacaaa tagaatcaag    9000

ttatcaacag gaaccttgca ggtacttgtt ttgcgctgga ataagacat ctcgtttgac    9060

atggccctgt cgtaacccaa gccatgtata acttgcaagt acactacctt ccagtgatcc    9120

ttggtttttc tttgtcttgt acgccagtta atctccaaag caggccttcg atacaacaga    9180

tatagcgcaa tcaccaattc ttcacttttc ctgatttccc accccactg gcttcttcat    9240

gccttctggt caattggtac agcaccggat acgacgcatc caatgagagc acgatcccta    9300

tataaaacca gcacattgga ctgtcaagcc atggcgcccc atcgacctgg tgctggaagc    9360

ggatgcagag ttttacaaac ccgccggcgg tggatatcgc acgagccccc cttttgatca    9420
```

                                        12076

```
ttgttagtag caacgcgaac cgtaaattca tggaacttac caaataagca aactggctcc  9480

cctcgtatgc ccacgggtaa gcagctgccc aacggcggcc gagctcgaga gaaactggca  9540

cagcgcgcca ccccaatgaa agcccagcgc gccgcccatt tccaaagcca ggcatagctg  9600

gccggccgca aacgcggcaa tcaccgccgc atacaacagc accagtcgtc ctcggctttc  9660

acccaatggc gtgcccgccc agtcattcgg ggcgtagcgc agggtcgcgg ccaggacggc  9720

cgtgtgcagg aaaaaccaca cgcgcacgac gccctgccag tggccgctgg cctgtggata  9780

tatcacgcgg taggtaaact cccaggcgat atcgcagcat agggggagga cggcgatggc  9840

ggggagtttg tcagcttgcg tgcggtagac catggcgaga tagtttgtcg accaaccaag  9900

cgcggcgagg atcttgagca tttcggagag ggagagtgcg ctgaagggtt cctcaatgat  9960

cttggagatt gttagttgag acatggttgt gcgtgttgtg gtgtgtcctg aactgcgatg 10020

agtgctgctt cagcatgcga taacacggta tcctcagtta attatgaaca aagctataag 10080

cctaagacca cggtcgtgct acatggcagt catttattat ccgtggcatt atgcagggaa 10140

tgtttgcgca actagctatt gatgcccttt gctaatcact gcaagtgagg agtaaataat 10200

gcataccaca gcggtacacc cataacatct tccgaacgat tattggtcct ggtgaatatg 10260

taagattgca ggaaatttgg cgctctcgtc ttaccatcat ccgtcgattc tttgctacaa 10320

ctgagtgtgt gggaaagaat aatgattgat ttccagcatc cctaggtcgc agtgccttgc 10380

ctatcaccta aatagtcgac cacgcgttat caacaggaat gactgcgcaa ctgaccccct 10440

cctatgctca ttcagcaata gaatatgggc aatgtttatg ggcaatattc tgcggctgga 10500

gttcaacgcc cttttctttg tcacagccgt gagcctgagc aagctgccca gagccagcag 10560

gagaatcgcc acatttgctc ttcctgcaaa cccatatact cttttagggc cgccacaggg 10620

tcctgattgt tggcggaggt tttaacggag gttttggcgg cctcctattc gccgtgcacc 10680

tgctccagac cggccagttc aaggcgagta atatcgccat tgcagataca gccgcagggt 10740

tctaagggac gtggtactgg aatcggtacc cgggttgatg tgcaacacgg agagttatat 10800

ttatatgccg ctcctagagg agacaggata catgccacga cacaggtacg ccagtggcac 10860

ctagattcgc gaacatgccg agcgtattgc aagcattggg gactagaggc ccgggccatg 10920

ttccgcacca ttgtgcgagg tttggcgtgg gacgaggaca agaagatctg gtacgtagct 10980

gaccagctgc ttgaaaatgt atcagataca aacaaggcag agagaagcag ttcaagacat 11040
```

12077

```
tgtcctcctc tcctcgggct cttttgcaag tcctcgtgtc cccagctacc cggatatcac 11100

caagtacaag aggaggctct tccacaccgc acgcttggga ctgccagttc acaggcgagc 11160

cattagagat ttcaaagctc actgggttgg ctgacaagcg cgttggaata ctcgggcaaa 11220

ggcgccagcg ctgtccagat catcaaccac ctggcgcggt acagccgctc gctggtcgta 11280

ttccacggac tcccgccgcc gtcaatgaac gcagtaatcg ccctcaccga cccggcatag 11340

tagaaggagg agattgcgag tcagggagcg ggctggcagc agcgaccgca gaagagcttc 11400

aacgccttca cttacaatga gacaccgctc cctagagcta actgtgccgg cgacggctgg 11460

acgcgcatgc gatcgttcat aaccgtggtc aggcttcttt tatggcttgt attgactggc 11520

ggaatttcta caaattcggt aagatccagg ggcttctagg aaatgcgagc aggatccggc 11580

aagatcatga aggggcttat caaacccata actgaacgta tccacctgtc aagcgacgta 11640

aggaagaatg tcccagacac ccagagctat gcaaaatgca gacgctgaaa cctattattg 11700

gacggagatc gttttttcctt gcaaaaatac taatttggtt cacattgatg gctggcttta 11760

ctgaaaggaa tggccgtgta accaaaaccc taccccatgc gaacgccaaa aacgacaaag 11820

acgccgaaac aaagcacaat tataaaagtg gaatgtttcc gtacaatgac cttcccactc 11880

gtactctctc gagccgtgtc cctggtggca ggagtagacc gtacccaacc ggcgagttgt 11940

gtcacggcct aggcaggagt agcccttgaa acagcagagg tcgctgcaga agccgctgga 12000

gtcgagattg aggttccagc agtggccacc gcagggatgg gactggctgc tggagtcaca 12060

gaagcctcag aaaccgtagt tgaagttgac gatggcagac cgccaacttc aaggaacgca 12120

gcggcgaatg catcagcatt gaactcggtt cccggagcaa acatgcccca agtaggataa 12180

ggtataactg gaggagagcc aaacacgtaa tcggtgaccg gtggcacgat gccttgctca 12240

ttggtcccgg caacttggcg cgcctggagg ttatgcatgg aggctgctgg gttcaattta 12300

tcactaccaa tacggcttct ggctagtgct ggaggaggat gatgatgtgc ac     aa 12360

gcaggggggtt gtaatgatca tcacctcact taccgtcctg aggggccgttg gcaagctgtc 12420

ctgcgggcaa agcagcggcg ccgcccagca tgccgactcc aaggagcgca actgtagatt 12480

gcttcatcga gatgttttgg tgctttcact gggcgaaaat gtgtctaata tgtctgagct 12540

ggataatata aaagccttgt tgagatttta gacaaggttt acggaagctc tttataccac 12600

tatcgaagtt ggcgccgtgc tgaaaccagc cggtctacca agagagattg gccgggcaga 12660
```

```
ggcctacgat gccgttctca caagttacac cagagtcctg aacccggtga gcctccaaga 12720

cgggcaaccc actctcagag tgccaggcct actgcgttcg cacgcatcgt gctcctgtct 12780

cggcggatga tcaccatccg ggattgaatt cgttcacccc aaagcagtca atggttgctg 12840

gtacaaattt cagcatctcc agccttcact tccagtctgt gcgcccggtc attcgtcgct 12900

tgcactcgac gagatattgg catataataa gttcgtctgc acagtgctgg cttttgccaa 12960

cagacataac agcactaatt ttggcaatac cattgtccgt acaaggtatt gacgtttctg 13020

gttcaaatcg caggcagact tgcggatagc gcctctaggc atcgaataag ctaacgagac 13080

aatttcacaa catagtattc tagctatagc aaaaaaaaaa taaaataaaa taaaataaat 13140

aaaaatataa aataaaaaaa taaaaagtag gagattagaa aaggatattc caaagttgga 13200

ctagagcgca acatgctgcc tggggatccg acacgcgaat ccagtaacgg gcaattggcg 13260

cgacgagagc ctgggtcgaa agtcccaaaa aaaaacggta ccgttacttt gcgtggtgga 13320

gtgtatattc atggtgtggc ttgaccgatg aagtgaagtg tcgttgggcg ccatctggtc 13380

tcagatgtgc tcaacactgg ctaagaaaga tctgtcctgc tctgatgatc atggcgtgtt 13440

tttcattttg cggcccctcg ctcttgagag cttcggcccc gtgagcaacc agttggcccg 13500

cttggccaaa atggactcga ccgcaactgc aatcagcaga ttgctcgaaa ctcgcaagcc 13560

atatacatta gacctcggtg gtagatgtag acttttcttg attggcagtt gaaatcgatc 13620

ctttgcacag atgcgagcaa ctgattcgtg gcaggggtat gatcagaggt atggaacctt 13680

ccacgtagaa ggacgctgtt gactgacata ctgtggctca caagttcctg tgtcaaggac 13740

acgtagtttt cagtagggac tgtaactgtg gcgcgtttgt cttggtcatg cacgcaatat 13800

atcctgtttt atctcgtcag ccgccactag acgtttgaca cggtcaaaat cacaccttct 13860

accgctgaag ggcctcccca agatgtctgt acccacattg catctctcat tacacgccca 13920

taagcacaat aggggacccc gtggggcatc gactggcctg gtactgttat ccactccgtg 13980

gacaaggcca gctactctcg atattttcga ccatccagca tgctggaatt gcaagaaaca 14040

ggccgacgca caacgcttac acctgtctaa tctaaacgtt ttactctttt ctttgagctt 14100

t                                                                14101


<210>    5833
<211>    7769
```

<212>   DNA
<213>   Aspergillus nidulans

<400>   5833

aaccaccata ctgtatgcat tcaggcaaca tagagaacat tcaaccatgc gatcgaagga   60

catacccccgc aacagcggcc atactcagat tcgtcctatc catcagcgaa acgcagtacg   120

ccagtccagt gatcgtgaca aggcgcagat cgatccgccg aataattctc ttctgctcct   180

ccggcgagaa ctcctcatcg taatcgatgt tgttgagcgc agcgtgccct gcatcctcga   240

ctttctctac tgttgggggag tatttctcat ctcggccgag tgtattgctg accgacatag   300

ctagcttggt ggttacagag tagacgagct tggtgagtgg ggtggaattg cgattgaaat   360

tgaacgggtg gtctatcttt tgcaccagga cgcgaagggg tctatatata cctcccgcag   420

ccgagaccaa catggatcat gaacagcgtc cacaccgaca agcgacaacc cactgtgttg   480

atgcccctct atgttgcaca cagtctagga taagcttggg ggtctagctc agatccagct   540

atgtgtcatt tcccaacgat ggtgtggtat agcatggccc aaacagcgcc gcatcaaccg   600

tcaaccgagc caataaccca tgagcattcg gactgcccat ctctaatagc cggctcgggt   660

ggaaaagcgc ctcggcgagg gctcgagtca gcaggaatgc cggagcctag accccagagc   720

cgggctataa ttggcgggta cccccggact ggcctgggtt aatgcggggg gtggaatctc   780

caccactact gggacattat taccagcccg aatattgttc ttgaatacgt actactcctt   840

ggggtgggtc gctgcgtacg acctcaggta gagcagagaa agatgccccg aacacccgt   900

atcttggcga cttggcgatg caaactcgat ttcttttgtt tgattctagg atgctcgatt   960

ggactgggaa ggaccatgcc tggtttgact ttgcttagcg agatacacga ggatgacagc 1020

tgacttgaga accttaacca tcaactgccg ctccaatcag ctttggaatc ggtttcgatc 1080

atcctaggga caagacttcc agagctgaag ctgggcctg ttgttcgttc gtgttcgaca 1140

ttcgcagttg ggactgggca gtgagataat agctggatgt cactggacgg tcggatgatc 1200

ctggtggcta tattatatta tccttgaact aaggaaatat aataagacaa taaataatat 1260

acactcccac caccccagca ccagtctaaa ccccatgtaa tgccgaaggg tgtactcagg 1320

gccctcggtt ccatgttcgc gtctcatgct tgacttcacc ttcatttacg tgtagctaag 1380

cgggctctcc tcccgcacag gaatcagcct ctgccgttcg ccatcctccg cttcttcccg 1440

ctgtttccta agccggtgtc ctgcagtcgc cacaaaagcc acgagaatag agccgacaat 1500

```
aaatcctgcg cctgcgagga tgatatttat cgggataggg ttgccatcaa atgggccatt 1560

ggttagggcg tcaagacctg tttgagagaa gttaatcaga ccagacaggc atacgattgt 1620

cccgtagacg cggccaaacg tcgcgaagcc aaagaccttg gtggcgtagt cgctggtaag 1680

ggcagatgtt agtattctct ggatgtcata gaagacttgg cgaacttacg acatggcgga 1740

gtagtacagc gggcggagaa ggacgaagag gatgacggtg aaatagcccg tccagagagt 1800

agggatggaa ttgagggcgc caatcagcgt ggtgaggaaa actatcaggg ccagtgtaca 1860

tgggacgctg agatggtcga gcagcagtcc gataaagggg gtggaaagga caccaccaac 1920

gggtaaggcg acgtcgaaga agttgttgat ctcgatgcct ttctcctcgt cgagcatata 1980

ttcgtactgg ttacgaatgg tggcgataaa gtagttcatc cggagcatct gcaacactgt 2040

cattatggtg atgagtatga accagggcgt cgccatttgc ttgtgagcgg gcaagccatg 2100

aagaacaccc cagacagcgc tagtctgctg gcgctcttct tcctgctgct cgcgatgctt 2160

ccgctcttct tcgtctccca gaacctgatc caattcttgg attttcaagc gacggcgctc 2220

agccctctcg cttcgtactc gatggagctc ggtcaaactg tcgatctcgt cgtctgaatc 2280

gtgaacatcc ccgtcgcatc ctctgccttc tcaatccgaa cctctaactg gtgggtcgtc 2340

tgataatcgc gcgctggcat taaaacgatc caagtgataa ggatcaaagc cggaacaatg 2400

gtataggcga ggaagaattt gtccggggtg aaagtgccat tgctcgcttc gaacacaagt 2460

ctatagaaca gatagaccgc ggccgatgcg tcaaaagcgc ccgtcacaag agcgacaatt 2520

gttccagtgt gtttcggaaa cgcattggcg atctggaaag acgggacgaa caagaacgtg 2580

ccgccgagcg caagaagaaa gtttgcaaca atgaagccgt cgaactgcga cgagaacgag 2640

aaagacatca gcaagctgcc agcagccaga aaaaagcagc tcgcaaaccc gcaaactcgc 2700

gacccgtacc ggtcgagcat actaccaacc ggcagcgagc acacgttagt cgttatagag 2760

ccgacagtga aaaacaggtt caacctgcaa ttaaacagga tcagcctagt ccgatatgcg 2820

atacgtggtg ccacctacct cagctcctgg tcatagcagg tatcgaactc cccctccagc 2880

tcatctgcag gacataaatc ccgatatact ccttgagcga taagcacagg tttcaacgct 2940

gcgtatccaa agattattcc ggacccgagc cagcaggcta atatcgtggc gaaaacctgg 3000

gctggggacg ttagcacgcg ccttcacctc gagtggcaaa cagattctgg gtacgtaccc 3060

agtcgcttcg cggtggacac tttgtaaggg gccgtcgtcg tgatatcctc gatggctgag 3120
```

12081

```
acggactggg ggaagaaatc atagctgatc tttcgcttaa tcgacctcga ggtattgtag 3180

gtgccgttgg tggactcgcg ctcatcttga gatcctggca cagcatccac accctcgagt 3240

gacgacacat gctgcacgag ggacatagta tggcaatggg agaattaatc ctcaggtata 3300

gatgtcagcc cttggatgat gaggcctaag caattggggt aaggaagaag cccatggata 3360

aataggttgt gtcgtgggtc tcgaaagttc cagtgcggag actcttctag actgcccgct 3420

gggccacctt ccaaggcaga gtgcatgcac gataagccgc ttctacgata agaatactac 3480

ggtaacagtg tatatataga ccacttacta gtggtagcga taggtagttg attctctaat 3540

attgaatctt gttcgaaatg cgcctaattg gatttactct agcagtcgtg gttagctggc 3600

ttgcggggtg gcatgacagc atcaatctat ataaagagca atttattcac tatactatac 3660

cgagttagac gaatgggtct aagcgacgag aagattgaat aataatatac tatagagtag 3720

actagctcca gtcatgattt aaagcttcaa gccctgattc ccacttataa caccgccctt 3780

taatcctaca gagcagctgt cagatgacat gacgtactgt ataacaccca tgacgtatgc 3840

tataccatac tttttaaaat ctggtttatc caaactccca ttcaggaaca ctattttctc 3900

tctccacaag aaagaataga gaaagaataa ggataattca tgaaaacaaa ctcctgagat 3960

ggcttcactc actatcaatg ccccaggggc gcggattcct ctactctaac tcgcgaaacg 4020

cgcgtctcat catcactgct gaaaccccag acttcgatac cgagttcgtc caggcatggt 4080

caaaggaggg attcaacaca atctacatcc cttatcatga agacgaaaag gagtatattc 4140

gtcgcctgat ggcggtcaaa gagggtctca gtgttggcga caactacggt gttatcggtg 4200

agctagaaac catcctgtag tatcacccgc tctgacgatc gtagcattcg gtgacgccgc 4260

cgcattctgt ctcgattact atctcaaacc gaataatgtc agtcgcctgt gcgcgctcat 4320

ctgctactat cctaccagca tccccgacat tcggtcgcga tacccgccgt cggtgcagat 4380

actaacacac ctcgctggcg ataccattga cgtcgtcacg acgccgaccc ttctgggact 4440

ccagggcaag aagaagagat cgaccaggcg tatcaacccc ggaatcggga cgggagaact 4500

cctcgacatc ggacaccgcg cgtacactta ctcggacgcc cagccgggtt ttgcggaagt 4560

agacctggat gagtaccacc ggctagatgc agacctcgcc tttacgcgca cgcttgaagt 4620

actgccaagg cgtacggtcg ggagggtgat ctggagcagc cgtgggagga gcatttgcag 4680

ggtacgttat aatcttccct attcgattgc aatccatggc taacctgcgg acaggcaagt 4740
```

12082

```
tcttctccat gaatcttagc gatacaatgt cccactacac caagaacctt accccactg 4800

ccacctatgt cccaaccta agcggacgcc acgggtcccg cgccctccgt cggttctacg 4860

atcagtattt cctccacaaa ctgcctcctt caatgcatct ccgcctaatc tcagcaccgt 4920

cggtgctgat cgcgtcgtcg acgagctgta tgtctccttt gaacatacgc aagagatccc 4980

ctggatgctc cccggcgttc ctcccacgaa ccgcaaagtc gagattgttc tcgtcagcat 5040

cgtcagcatg cgcgcgaaac agctttactc ggagcatatc tactgggatc aggctagtgt 5100

tctagtgcag gtgggcctgc ttgacccgaa gcttgtgccg aaggagacgc aggagaaggg 5160

tgttgatcgg ttgcctgtta ttgggcgcga ggctgcgagg agaattttgg atgaggaccc 5220

ggaggtagag gagccagagt ttcataatcg gttgatcaga aggtcgaggc agaggaggga 5280

gagtggtagg gttgccgaga gctcggtgcc gcagtcgccc attgtgcagt ctgaggcgga 5340

ggggtctggg ccgaagaagg ggaagagggc cggtcctcaa aatggggagc aaaatgggga 5400

gaagagtggc attcaggctg gggatgatgg tgaagggttg aaggatggtc aagaggatgg 5460

ggatgcccac aacagccatg ttgaagagcg ggacggagct gaaaacaaga aggaccagga 5520

gaaggacaag aacgagctca actctgaatc taattagtga ctgcataccc caaaacactt 5580

cctcaggatt ttatataccc ttttaatgat gtctctgaca cttttctgac atgagcttat 5640

gttgcctta gcctgactta ctatccgcat cttagtattt gcaatgattc aattaattca 5700

ttattcactg atactaccac cccttccatg gcacccaagc ctcccgaaca acatcttgct 5760

catcaacaac ataataagtt ggatacgccg ctgctgtaat gcatgcatgc tggcaataaa 5820

gaagcacctt atcgcccacc ttgaaggaat ccacagcctt ctcatcctta acctcattca 5880

ctcccaacaa cgacaaagcc ggcgccggcg aaagtcctag gatgccgtgt cctggctcg 5940

ttcgcaaaac agcccactgc gggcgctcag tgactcggcc ataaccgggg aactcgctcg 6000

tctcttttgt gagtgcgatt gtgcctgcat tgatcagagc ttcattgcgc tcgggataga 6060

cgctgcaaac ttctgctagg acacggacgg attgcgcagt gtgagggaca aggccggttg 6120

agacttgttg gaggtcgttg caggggtagt ttcctttgct gctctcagta ctggtttcaa 6180

gacgtaagaa ttgggcaggt gcagacatac cagcatgtaa ctctagctcc agcccctcag 6240

gcagaacctc tcgaagctct ctaaccacat gcgccgtcgg ggtggagcca accgacacaa 6300

caactttccg cccagttccc aggagcttcg acgcactaac caccccctca acctcgtcct 6360
```

12083

```
tcagcacggc aaccgcgctt tcctcagtcc gacaagcata ggaatgccct gcatggcagt 6420

agaacccata aagctctacg gcagaggatt cctcaacgcg cttcacgaga tttgggagag 6480

cagacgagga gttgagaatt ccagctctgc ggttcccaca tcaatcttaa taaagactgg 6540

ccatggtgct gtggaaccac taaacttctc cagtacgtcg atatgctgct cattatcgat 6600

catgaggaga attttgagag atttcgagaa tttgaggagg cgcgggagga cggttgggta 6660

gatcggcatg ctgtagaggc actttgcgac tgttagtctt ctgttcccat gattgaagag 6720

ctgagacaga cctcgtcaag aactccctct tttgccaggg gaatggcacc ctcgatctcg 6780

gggagagttg aggcgacgat gcgtcggtgc tggccattgc cgagcatcat ccttgttact 6840

tcaagagact attgatatta gcttgcgaac tgcgctttgg ttgaatggct ctgtaccttg 6900

agcgtcttaa cgtgcggccg aaacgcaatc cccagcctct caacatcctg aagaagctgc 6960

ttgatgtttc gctcaatggt cggtttgctc agaactagag ccggagtcgg tagctctgtg 7020

accggctttc caatgtatga atcataggcg tccatgttgg gtttctgtcg agataatttt 7080

gagttggaga attggagact ggcgatgcga ggggcagcgg ggttttatat gtccttatct 7140

attctgaggt ctccgcaagg ggtgctggag cattccaggc cacagaaaga tgatgatcca 7200

cggtctttcg tgcaccgtag agatattggg tatagtctat agtggtaaag acagagcgta 7260

actatgggca gtacagagtt ccagatagga tccccacacc gtatttgtgt tcggcagaac 7320

cttcaaccgc aaattggttg attaaggtcg caagtgctga atacttcagg tcgtcttttc 7380

agattaattt gcatgcccc tttagaatcc agacctcgca attgtgttgc gagaagctcg 7440

ctcaaatcat ggacactaag ttgctggtca gctggccctt acgacggggt ctaagaaaaa 7500

aagaagaaaa attcctgcgc aaataagagc cgagacactc gatcgaccat gagatagacg 7560

atacgactcc aaccgcaacc ctggaagata tgtattattg atcgttgaca gctttcgatg 7620

aggcgaatat gtagagtggc ggtgcgggga aggaggggtg ccaactgaag tcatccagga 7680

actcaaccag actctagaat tcgcctccag agaaattgct tcagaaaagc tttccatatc 7740

cctccaacaa tcataatagt actccattg                                 7769
```

```
<210>    5834
<211>    8890
<212>    DNA
<213>    Aspergillus nidulans
```

12084

ccgcattctc gctgtaatgg tcccgccgcc ccctctctcc agagatttag cagatgcaat   60

cgccttgctc tgatggatcc cagtccgaca atgccggatg gcgaaagtcg actgcgcgtc   120

ctgcgtgcct gtgaccgttg ctctcagtcc aagcagcgct gtgatggccg acgtccatgg   180

tacgtcccat cccatctcag tcccaaatgt ccccgtggct aatagcgccc agccagcgat   240

gcacgggttg gtggcttttg accccgcact ggcttgaaat ctggcgtcta ggcgactaac   300

ttgaattcgc cagagagaaa cacctcgtgt cattatgaga agctcgtccg aaaacgaggt   360

cggcgccgtc gaacgaagcc cgctccgtct gctcacagag ccctcgcacc tggtcctccc   420

agcttgcacg acctgatcaa ccatacagag ctgaaccctt caccagtcta ccaggagaaa   480

gggccagacg aaatgcagcg gcggaacacc aactcgttga gcagtccttc gtacaccgaa   540

gacgattcgg cacaaacagt agaaacaaga ggcactgggg ataggtccgt cctcgttgaa   600

aaaaacgacc atcttcggct gggaggcggc ctgcacacgg ccgaagggca gcgagagtct   660

ccattcgctc agcttcttag tccgttccct ctgcaggaag ttctctttgg aatgccaggg   720

cgcccgaata gccaggctgc cttcacgcct ccgatggtca cacctccagt tgaacactgg   780

ctggatagga caacgtcctt tgcgccgagc atcccacgga gtatatgtcc gtcaatacca   840

cacaatcctc atgaagcgct cggacaggga ctggttcagg ggcagtgcta cccttgcttg   900

caccatctga tgccctatct aaaaggaatc ctctctccgg aagatgcttc tgagatgctg   960

gagatctatt ttaacgacca acggaacccc atcttcaaag cctcttcgcc atacacgcta   1020

acccacataa tacacccatc ctcaattctc catccaacgt ctccgcgacc tacgtcttcc   1080

gtcttgcttc tggtcatgct actttgcgtg cgcacactg cagatatcaa gatctttgat   1140

cctcctggtg cacgccagcg catcgtccta gacctctatc gtttggcact ggacctctta   1200

gagccggtgg attgggacaa ttacttcagg acatcaggta cgtcgtccgc aaaggtcaat   1260

atgggtcgct gactattctg tagacggttg gcagttccac cctcgcggag gattcaccga   1320

caaggacggg cgctcctcgg tgtctcacgc cgccaggact gggctgatac ccgacttcct   1380

aggtcaacg gatgtcatcc tcgcgatcgt catccttgcc cttgttatat ctggcggcca   1440

tttcaaggct gactgtctga aatggtggtc caaggctgtc cggcttactc gggctagtgg   1500

```
gttgagcatg gaagaccagg gaatgcagcc ggggagcaac cctagtcaac cacatcatcc 1560

gcacaaatca catcgcgagt gggtgattgc aaaagaagaa cgccggagac tgttctggct 1620

gatctattgt ctcgaccgtc atctcggcct ctcgttgaat gcagccgtga acttccccga 1680

gggcacattc tgcgtcgcag agccactgcc tgaggcgata tggcagaact tggagacaat 1740

acctnttacc tcaatttccc cacctcgcct tggtccttcg tcgaggatat cggggtacgg 1800

cttcttgagt actttctccc ctggcgactg tgctgggtca tattattgac ctccaccaca 1860

tccaacaaca tcccctgcta ggcgacacta taagccaggc ggccgtccat aagatcgaag 1920

cgctcatatc ccagcgagag caggatctcg cggagctgag ggctcaactc gagaatccgc 1980

tgctcagtca acgaccggtc gatctattca acacacatag tccagtatcg accgttgact 2040

cgaagaaacc attggtcatt gcgtacagct cccacatgct ccacgtattc tatatcttgc 2100

tacacgggaa atgggatccg atatccatga tcgaggacga agacgattgg atcacctcgg 2160

atagttttca agcatgcgcc tctcatgccc tcagtgcgac agcagccgtg caccaaatcc 2220

tcaccttaga cccagagctg accttcatgc cgtacctgtt tggtatatat ctactgcaag 2280

ggagttttat ccttctgttg ttcgtcgatc ggatgcccga gctgggtttc aacaagtcgg 2340

tcgaggaagt gtgtgagacc atcattcgcg cccatgaagt gagtgtcgtg acgctggaca 2400

ccacattcca ggtatggctt ccttctcatc catgaaaaag accagtctga tgaagccaga 2460

aaaacatccg caaggtattt cggtcgatgc tgcatgatgc gcaacagacg gatccacagt 2520

ttcgggaaac gcacaaggcc cggagaaggg agattctgtc gctctatcgc tggacgcgga 2580

cttcgcatgg gctggcctat tgagtcttga tccctctttt ctggcatgat gttgggtatt 2640

aaccatatca ggcagggcct ggagtattgt cccttgctat ttttgactga ctcgtgtggt 2700

gcccatcttc tggaagcggc tggattgacc tacaatgcct tattgaattg gtcaacatga 2760

gatttcttca cggctcctaa attattgcga agattttagg ataagccaag cgcctgtgaa 2820

gcatgagcaa caggtctaga actcgcaccc ataactagca gagttctttg ggagagcaga 2880

cgcatagtcc ctcggccatg ccgtctactg agtattctac acctagccat ggaccaattc 2940

tcagtcagtg tttgcagtga acggatcatt gcacattcat ttcacaacct gtgctcctag 3000

acgacaagac caccagggca cagctaccag atatatcact tactcaacgt atccaagcaa 3060

gtacttcaca acgccaatac ttgtgagtac ccctactggt atcaagaagc cactgctaag 3120
```

12086

```
cttgcatctc agtggtgatg agactgcagc caaccctagt cgaactatta ttccgacgcc 3180

atcgtacaca ccgcgaacgc gattcattca gcataggatc acattccttg ttaggaagac 3240

ccaaagacac aaacccgatc attcaccatt gccacagggc ttgtactgag tttaattcca 3300

tcatcgcagc gcgatagtga ggagcactcc agcatatcac agcgcttcct cgaccttcaa 3360

aactgatgtt gaggcaggct gccgggcggt ttatttcttt cagaaggcct agcgcaacta 3420

ggcgctcggt ctttctagca gtagtacgaa aagggtcgaa tattcctttt gtcccgaggg 3480

ttatcctaat atgacctaga catgctcaaa ttctcctggc aaaaataaag agattactca 3540

tgccacgttc aggcagaagg aaatgtccta atcactcgga ctgaggcgcg ccctattgta 3600

tgggaagacg tgttgtggag gatgctgatg attttcaatc tcaatttagg gtacatgcta 3660

ctagcgacat gcaatgcgct catactcata tttagcctac cgcactcgtt taagcctcag 3720

aaatcactgt aagggaccag caaaggcatc gagtcctccc agatggagtc cgtcaacacc 3780

tgcttattcc ctccgtctgc atccataatc ataacctgcc catacggctg gaatgtatca 3840

tcatacaggg cgcactcgta ttggaaccca aacatgcccg ttgaatacat gatccgtccg 3900

tcatagctcc aaacggcgtg cgcatcattt cccccgctac tcgtcaggac ctcgagatct 3960

gtcccatccg gcttgatcgt gcaaacatca tagttgtaaa cacccgtctt gcgcgtgaaa 4020

acaatccgct cctcgaaccc tgcgggcgaa aagaatggga gattgtccca ctcgttcgtg 4080

agagctgtga tattacgagt attcagatcc atgactctca gtcctagctg acccgtatcc 4140

ccgttcgtcg agttggcgcc ccagacacgg aagacgatct tgctcccgtc atggctgtag 4200

gaggggaacc cggagttcat gatcgaagtg ttcgcaatag acgtgttaga tgcagtcagg 4260

acttcatact cagacccgtt ggccgtcgcc cgcacaagcc atcccccggt cgaagcccgc 4320

gactggaacc aggcgccctc accgaagacg agccactctc catccgggga ccatgacggc 4380

tggaacgctc ccgcaagacc ctgggagaca agagacgacg agacaagatc actcttcgcg 4440

ttgtcgtatg ccatcctttc atctgatgca tcaggcttca ccgttatgat agatgaattg 4500

cccagctgct tctctgtcat ggcaatacga ttctggttcg agatctgcgg gaagacatcg 4560

gtgaagcggt aatcccagtc ctcgttccaa gagtagagct ccttcgccat aggccgtata 4620

tcccagctcg tcttctcgta cacgatgtat tgcccgtttg gagaccatgc cggggagcgg 4680

atcgttttgt tgaggtagac accgtcggtc gtgtagatgc cttccttcga tgtccccttc 4740
```

```
agatggtatc cgatcgtgtt gttggagaga tactgcggga atgccttcac gccgtcgacg 4800

tcgacttcaa cacgtcgatc tttgccagtc ttgaagtcga ctgagactat gattgagctg 4860

gtgctgtcaa ttgactccgg tctgtgcgcg ccccatgttg cttctctcgt catctcatag 4920

tacacaatcc gttttccgtc cggcgaccat gacggggagc ccagggagta gccaggtttc 4980

gtggcgagtt gtctgaatcc cgacccgtca gcacgcacgg cgtagatcga gagttcctgc 5040

gtatgctccc atccactgat accgagatat gtgtcgtcgc cgtgtccccg ccagtccgta 5100

ttacggtccg aactgtatgc gatccatcgc ccgtcaggcg accaggaagg tcgaaagtac 5160

ccgttcatga gggtctcgtt taccgatctt cgagagagcg gcgtatcggt gacattccac 5220

ctcttcccag tctcgatgtc caaaatccag atattggcgc ggtatccgtt ctccgtcgag 5280

acgtacgcgg ctaaggtccc gtctggagac agcaccacac tgtcttccat tgacggcgtg 5340

gagaggagga gctggagatc ggagccgtcg gggcggacgc ggtagatatc agagttcccg 5400

tcgccggagc gttcacctgt gaatgtgatc cagtcgcccg agggcgagaa ggaggcatgg 5460

tattcgtaga tcggattcgg gagcagggga cgctcggagc tgccgttcgc ggttgagatg 5520

tacagctcag atgtgccggg agcgatgcgg ttcatgtaga acactccttt cttggtggag 5580

ttcgtcctgg atgagataga tggggattga ggggcctgca ggtgtgcagg tggatggcct 5640

cgtggcgatt cggctgcacc gcgggcctcg agaccgagct gactcgcata gggacagcct 5700

ccaaggacgg gaccagctac gaaactgaga gaaaggagga ttccctgcca ccgcatcttg 5760

cagatatgtg gttgagggag tgtcaggatc agataagatt gatttacccc ctaatgtgac 5820

gcttgtacaa ggttgtgcgc gcaattgcat ttttatacca gttgatctgc gtcttgaatt 5880

acgcgagaga ggaatgttct ccgagatcca cctgtcaaga ttatctcgga gttaagagta 5940

aacgactgcc tgggattgat tgataaagat tcactgtcct tggcagtggg actagaatct 6000

tcagccaatt tccccacagt ggtgctgtcg atggaaagcc actgtcactg ttggcgtcta 6060

taagcaagag ctaactctgt tctatgagga gagaagggtt gccgtgaggg aagtatacct 6120

gttcctgctg gtgcgtcgct gataagtggt ctaccatcgg aagctggtcg agacatggaa 6180

agcgtatctt tgtaccatcg gcctgcgaaa gcgtaaccgt aaatgaacat tagcatcggc 6240

atttcattcg cggagtccag tcttgatcta aaaaagcgtc gtctgggcag tgtatatcct 6300

ggcagacatt gccctccgcc caccttgaac ccggtacgtc gtatgcatta ttggttagat 6360
```

```
tcattgcatg agttcgtatg cattgtctcg tgctgaaaac aggcagcagc gttccgctct 6420

accgagcaag tatacttgac agattttttg gaagggtatt aagaatatgc ctaggcaatg 6480

ctaatttgct agctctgtat gtatgaatac gcttacagta cctacttgcg gatatgaata 6540

gcacgagttt gcaattgctc atcatagttt cgtaaaggct gatatatgtg gtgatatata 6600

tctggtcctt tgaacattag gagagtcacc tttctccttc gtcagcttca ttataacaga 6660

ttatgaacct ttttgcagct tctcaatctc cccaagaaag acagaaatga ctgacgtttg 6720

actccgacag attaggctac agaagaatgt tgcaaagaaa gaccgaccaa cgtacggtag 6780

tcgacgggag acgctggaga gctcgagcat gctagactaa aatcgagaaa gtatcgattt 6840

atggcagagt agaaggaggt agggtgagta caaagagaaa tgagaggaat ccatgcttag 6900

gtatgtcctg ctgcgagata gggcagacaa aacctgtgag ctgtaaggat acccccaatg 6960

ctctgcttat ttgcatctat gtacaattat ctacatgca tgatcggtgt gccacctagc 7020

cgaatgacaa aacgtcttca tctaggctca tccgccactg aaagaggatt agatattcag 7080

tttaaggggc cctcagagaa taacggagat ctgcggagtc tgccttgctc actcattgca 7140

tgatatccca ccgcaggtgg aaaggtaagt gctgcagttg aaggagactt gcgcaggaac 7200

atcgcgctca accggatctg ctgcaaggta tcatccgttt gggcctatcg agcgagtagc 7260

tgattgacca ccaatggcat gaactgatca acggtgacta tatgcctgtt tagatcttct 7320

ctgccgcggt cggaacagtt tagctatcta cttgcatcga caggtgcatt gcccattcct 7380

tctatcattc actagctcaa acaatttccc atgaattatt tcttgatact cgtgatgagt 7440

catagttcaa ctttgtcgaa ctttgtcgcc tatttagtgt ctctcacccc agcgccgaaa 7500

actgccctat ttaacttttt ccttttcttt ttcttcagcc gtgatcgacg gtttgattga 7560

gaactgtgtc aagcaaaaga ccctactcat gaatgcaaca aggatagtga cagttagatg 7620

agttgatcaa caatcaatct gcagcctctt tgttatcctc ctatggcttg cggcagatc 7680

aggccaacca tctttatact agggcaacat cagcatcatt gctaggttaa cctacccaac 7740

tttggccgta attgcttgct aacgccggct ggcagcgcag cagctacata aaacccgttt 7800

gactgcaact tggattactc caaacaatcc attcaacaca attcatgtac tcttgtagtc 7860

gagtccctta gtcatcgttt tgttgtagtc agctagagaa ccccagcatt agaggatgtc 7920

ttacaaagtc ttgaggtatt ataggtcacc agcaaacaaa aaatctgtat aggtgtgacc 7980
```

12089

tgggcagatc agatcatgga gctgatcatc gtgggtcttt tagtctagtt ggaacatgct 8040

tgcggacacg ttactaacga aggatggccc catcaatacg acaatctggg tagcctttt 8100

ttaaagcaaa ctagctttt tttaaaagat aacaaatatg aagtgaatct agatattgct 8160

ccaagcatgg caaagtctga cataattcca tgccctcaaa tgcttaatcc tggtgaaaga 8220

aatcacctat ctcctaaagc aaattcagtt caagcaactg ggagcttagc ttagtataaa 8280

gccagcagtc ttagacattg ttttccgata ataagaatgg tggtagggct gttggtcgtg 8340

tttcgctctc tatcctgtct tgcaccgccg ccagcaccat cttgatctca gactgccaat 8400

atttagcagc ttccgaaccc caatccaaca ttaatcataa catagtccaa acgagcagcg 8460

gcttctactt cagagccaac cgcgcagagt cagcattcta attccccaag tgtaggtgaa 8520

ttgtattgat cgtccgccct aagagaaggg tcttgtttgc tgcaagctca gccaggaacc 8580

ggcaattcaa gtctccagtt agcaagacat tcgtgaatcg gcgatcggga cagcttcaat 8640

cggcgggcta cgttcactgg atctacgttt ggctttggct acattggaag gggttggtca 8700

aattctacac gtgtcttctg cctatacaga gaaactgggc catttgtctc gagaatacca 8760

gaaaaccgaa tcagaagcgg acacttctga taagtctgaa tgaagcagca gagcccccgc 8820

tcttatggtg gcttaacaag ggtcatggca cacagcgcct acttggcctc cctaccatgg 8880

aggtttgttg   8890

<210>   5835
<211>   1144
<212>   DNA
<213>   Aspergillus nidulans

<400>   5835

ccctaaccct aaccctaacc ctaaccctaa ccctaaccct aaccctaacc ctaaccctaa   60

ccctaaccct aaccctaacc ctaaccctaa ccctaaccct aaccctaacc ctaagcttt   120

cttatcctat atctataatc aggatagtgt atacaactgg tcccccatca aaactgtaga   180

ccttgacttg tgaactttag ctcagcacca cagcctgaac tgatgctgga agctctaag   240

atatttccca gttagaatta agtaccttat ctatatcctg taaatttctc agccttgtta   300

gtaactaaaa gtgcaaagag atgctcaacc aaaaaaccaa ggcaatgcaa gacctgtttg   360

ccaagacttc cctaacaacg agcgaaacgc tgctcttcat atcttcgccc ccagtggatt   420

```
agatggatcg caattaacca tatattaact taattatcta ctgatatcga gaatattctt   480

ttgaagcctt tggaaatgta taaattagct atacagatca tagttagaag atcaagacct   540

tcaatgcagt cgctcattac agatatcaat cacataatca aatcgacgct cgcaaccacc   600

tcaatagcca acatgatgta tcaaatgagc ggacgagcga ggtgctgtat gttgattagt   660

aaggagaggc catctccggt cgacagtatt aagtaaaaac agtctagggc gggaactcca   720

acagcttaac cccacccatc aatgattctc aaaggagtga ttcagtgaac agagcagttt   780

gtgtgtcacg taagactgaa agagtctctc ttcggacggc tatctaggtg ttagataaga   840

ctagaagagt actccttaga gtaggtctta agaggtccta gattgcttta attccaatta   900

gaaacataag tagcagaagg caaatattct tcagggtctg caattatcag taaaactttt   960

aaaacgagac aggtaactta ccccagtccc gtacgtcttc gtgcatggaa gaaagaagat  1020

tctcatcaaa ttgaaagctg tggttcagta cgccatctta ggatagttga agctaaagaa  1080

tgtcttgcca aagacgagtt gtggccggtt cctcagtaaa cgagtagtat acttatacag  1140

gtcg                                                                1144


<210>      5836
<211>      6627
<212>      DNA
<213>      Aspergillus nidulans

<400>      5836

ggaaagtagt aaaagaaggg agaaacagg tcggtagtgc cctgagaagg tgaagacaag    60

aaaagcattg gaatgccaat cacccaacga catacagtta aggatgactg gatggaaaca   120

agggcaaaga taataatcat aaaccaagta cttgtccgca aatcaaccaa cttcagcttt   180

ccgcatgggt aagctgtgtg cgaaactgaa gatatccact cgaatcaccc gaccagactg   240

acgtggacag cctcgagtcc catcgtgcta gtaatgcgat ccatccagtc ggttgtcggt   300

ggttcccgcg tttcttccgt gatcagcgac cgcacgacta aacctggacg gccaggagat   360

ttgggaggcg taagcggaag cttgaactca agggcgggat gcgtacttcg ttggctgcgg   420

gtcatgtcat taagaagcat gaagttctcg gagtcgattg ttgctcgttg cttgggatcc   480

attatcacga tcaagtagtt aaggatcatt taatctaagc ggacgcctcg ggcaaaaaga   540

gaagagtagc cctcgaagaa gaaattcggg acaggcccca cgaaggtatc gtttcatcc    600
```

12091

```
tggcccgagc gaagcattga tactgcgact ccaaattccg tgtatatgcc tcgaagtcca    660

gctcgagttg cctgcacgtc ttggaggagt gccggttgaa cttccgccct cttcttcgat    720

gaaagacact ggagttcgcg tgttcgtttc acgagccccg ggatcttaat tactgagagg    780

aatcctctct cgaccacgtc tgtatacagc gaagaagtcg gtaacttggc atcactggcg    840

gcgatctcct cgttgagcgc ctgccactca ggctcttcaa gaaagcaagc ttcgccttca    900

accaaagccg ccgtaatgag aaagtttcgg tatacaatgt acatcgcgcg accaaagccc    960

tccagatgcg ctttcggccc acgaagcttc atcagcgtcc ggatcccggc ggcatgtcgc   1020

agccacgcat ccgggctgct gcagttatgc ttttcgaaaa tggctaatac gatcgccgac   1080

gctagaacct catccgactt ggcggtcttt tcgctagata atagattgcc gaggccgcga   1140

agagcacggt ggtataagct ccgcgacgca accaaatatc gctgatcgtc gtgaagggag   1200

cccagatatg cagatgtaca tgctcgtacg gcccagtcga aacaagagtt catcgagctg   1260

cccctttgat caacatattc cacccaattg acagggactc gtgtttctgt acaccggaag   1320

aagcatggaa acgaagcgag gacgtagttg gtgaagacct gagcctgctg ggaattgaca   1380

gccgtgacgg ttaacgatgg gttgatataa ccgtccaagg ccagaagcgg tacaggtctg   1440

tactcagccc ggggtgaagt tcgaggaaaa ggtcgtgacg gtagtacaac ctgctcgccg   1500

ctttgtcgct tttgaaggca ttgttcaggg gattcggtcg gcgatgggga tttcgatgga   1560

gagggcgacg gtgttgactg ataacgttgg cgcagagctg gagcttcatc tcgaaattta   1620

aacacccggt aactgatcgt acaagagatt ctcagggctt gacatcgtga acatggaagc   1680

ctgccattgc actagaagaa ggtcagacgc catgataagg acataattgg ccacgaatga   1740

ctgcggagag cgcaacgtct gaagataaag aaaccgatga agggaaagag tgatggatgg   1800

cggggaagtt tatggggtag gatgtctgcg aactcgaggc cgttgcacga caagagcacg   1860

tcgcacgatc tggaccctcc gtacgcagct gaggaagact caatcactga cctgaagctt   1920

agcgtcaacg caggactgac agccgcgcga cactctgacc atgctggtca cagaccggaa   1980

ggtggagcgc agccagatta gagaccagcg ggcgcagcaa catcgaggcg cactttcggg   2040

agagaaaggc ccaaagttgt gcgtgagagg gaagtggagg ttgggtgaca gatgcggtat   2100

atgtatatgg ctctctggac gggcaggcgt ggtactggtc acttgtcaga gggctgaggg   2160

tgagagtgag ggtgagagtc caagccctga aggttgcaag cggtggagca gcagcccacg   2220
```

```
gcgatcattc gggcaccatc cggggccaat tctgcacttc aagcagaaag aattagccag 2280

gaccaacagc aggctgacta tttgagtttg atcgtcgatt atccttagct agttgcagtg 2340

tgtgcgatca ccagtccaaa gggcgtcgat ggtgttgggt ggtgttccag tcacagggga 2400

accaaggcac agtcttatct ttttggtcta cagctgaaga accggagaaa accccccggcc 2460

accgagacca acttcgtagg actgtcgcta ttcaggttcg atacttgaac agtctatagg 2520

taagatggga taataataac agcataagat gatgacccag actcgtcggg ccgtacctag 2580

aaaaagaaaa ctgaagcctg gaatgtctgc agaagtgcag gttttcaggt tgcacgatcg 2640

ccacaggggt gcaggcaccc ccatgccatc ccttataccg atcacatcgc tttaccaata 2700

cagagtagga taaccatcac agtgcggaca ctgccgccaa atttatccta ttctttctca 2760

caaagtatcg taacggccag gccgcagagt agaactacat cagatatacc ggacatctgc 2820

ccaggtggag tatgtaccaa tcaaaatctg gcgaattgtg aacaggtggg gaaaacagga 2880

ttcctgaaga acagaatgaa cgttgaaaag ataaggaaac tcatatggaa aacgaaaga 2940

tcatagatat gagcgccgag ttcgccaata aaaagacaag agatcgccat cctaaagcaa 3000

tggaacggtc cggagaaaag caatcatacc aggccggcgt atagcgataa tgcgctgacg 3060

attgtttcgt cacgcttgct cccttctttg aactcttcca tatcgaggct gccgttctca 3120

tccttgtcca tcatgcgaaa gatcttgcgc actcgtttct ccggtgtgtc ctcgtcctcc 3180

gggagcttca ccattgagcc gacctagaat cacacgtcag caaacgccct gcgggattca 3240

ggggtgaacg caccatcttg taaatcgcct cgacaatggc cagcatctca tcgtacgtaa 3300

tctttccatc gccatcaatg tcgtagagct ggaaagccca gtccaatttg tcctccattc 3360

tcccacgtga ggtgaccgac agggcgcata tgaactcttt gaaatcgatc atgccgctat 3420

tatctgaatc gaaaacccgg aagacataat tcgcaaatga cgagggatca ccaaacggaa 3480

agaattttcg gtagatatcc tggaactcct cctttgtcaa ttgcccggac gggcagtcct 3540

tcagaaatcc tgatatgacg tatgtcagca gcagtctctc aacgagcaca taaaattgat 3600

ttcgagcaat atttccacgc tccagagcca aaagtacctt tataccattg ttgcagttct 3660

ttcttatcga aatgcgtcgc cttttggagc tcttcgagct gggttggaga tagttttgac 3720

tgtctgcgca acggaatggt tagccgagct agctcaatac aagccgtcca ggtagcaaga 3780

aaagattaaa ctatttctgg atgcggatgc cagtgaattc cccacaggat gctggcaaac 3840
```

12093

```
ctgctgcctg gaaggtatgg ggaacgggga cacggtaaac aagcagcccc gtcgaagaga 3900

acttacgact tgcccatgat aaatatcgat tcttaagacg cgccgatcca gggatgatgt 3960

aagtagcgtg gtgagactag gtccggactc actagagctc acggtttctc atgcgacaat 4020

gttttgagtt ggcagcagaa acgcggaagc cgcggggtaa gggagtctgg attgataaga 4080

tcgtgcaccg gccgctcggg tgtcggaggg gcagaaactg gggcgagagg ctagagcaag 4140

cggagctcac ggtggaacaa agcgaaacaa agcgacatac acgatatgac aacttgagat 4200

agaaatagca aacgtaaagg aaattgtcat gcaacgaacg gatgtagttt gggatgtagt 4260

ttggggtgat ggaacaacag ggcgaacgaa aagttcccta gcaggcccag aacccccgga 4320

gccttggcac agcctcccac agaacgttcc atcgatcgca tcgcatcgcc agtacaatag 4380

ccaacgctag cagctccttg gcaagtgact caatcagtct gttctaaatc ttgaggctgg 4440

cgactcaaaa ggttacataa tcggcggctc tagtccccga agatgaagga caagctggta 4500

gcacaaagta cgaaccagaa gccattagct atcaatattg ttacgtactg tacagatcct 4560

atccagtctc aactattctc gaacgccatt ttcacccgat ttatatacag ggcacggcag 4620

ggaccaagta agaatacgac gaaaaaagca gaaagacgcg gaaagaaacg ctcaaagaac 4680

cctgtcaagg agattcagca aaccacgggc caagacgtac ctcttgcgcc acggcacgat 4740

caaagtggag cactcagtcg accttgatag agcgatagat tcgctgtatg aagagccaac 4800

tggcaaagaa accaatagag cctgcttgcg agaattagta agcaggccga cccaagcgga 4860

tagggtagaa acttgcctgt aaggatgaag acaacaaacc cgatcaaggc agagtagccc 4920

acgtaaagta cagctccaat gaggccgccg aagctaaccc tggtcgccca gaagagaagc 4980

gcgttaagaa agacgtacac tccagtcatt cctgcacccg caaacgccct ccagtgccac 5040

ctatagttct cagcgcagag gaggaagtat accaacaaaa ctgttgtagc agcggtggta 5100

acaaccatca atccatagca caaaaacagg aagccgaaca tgtagtaaat cttgttggtc 5160

cagagagaag tcatgataaa gtatagctcc acaaaaatag cgccgaaagg aagtatgccg 5220

gtaagaaata gcgaagggat tgtcttcaga ctaccagtca tgggcgggat ctgccttgga 5280

atctgattgg tcttcgtagg tccttcaata gcctatgcga tggttagaaa gaaagtatga 5340

cagtatttgt cgtggagaga ccgtaccggc tgcttgaaac caatccagct accggccaca 5400

ctcagcggta cactgatgac gaaccatatc agcacaaggg caagcatcgt gccaaacggc 5460
```

12094

```
accgcgccac ttgagccctt ggcccaaaca aacaggttga gcagaaagaa gacgctgaaa 5520

ataaacgccg gaactagaac cggggtcatg ataatgttgc gcttccagga ttcaccacca 5580

aacgctttat aaaccctagc tgagacgtag ccgccaatga aaccaaaaag agtgtatatg 5640

atcaagatgg cagtggctag aaaacctcgg ttcgcaggtg acaacaagcc aaacatcgca 5700

aaaactaagc caacgttagc ccaaacagag aactactggg tacggtaaac gtaccgacag 5760

tggcaccggt catcatgaaa agctgagctc cattgccaac tagaacactg agaagcaaag 5820

gagacttcgg acaccggaaa acgtccccat gcaccagctt ccagcctgag tcctcttgga 5880

tgccgtcctc catagcagct gacgttccat ccagatcatc taggttaaat gagtccagac 5940

ggttatatcg agcaatatcc ttcttgagag cgcgaacaag gatcatgcta accatcccaa 6000

caagaaagat aacaaacacg gcggcgttaa caagggaaaa ccagtggatt ttcgggtact 6060

gaaccttcag gtacttatcc cagcgggttg cccatggagt agacgattca cgccagctta 6120

cactgtaagt ccaagccacc gtggtatctg catcctcatc cagatagatc ggtccttcct 6180

cattgcaaat ggatgtcccg tcctcagaga catgcgagcc acgtcgagaa cttggttgga 6240

ccaggacacc gatgactcga tacttctcct tgtctccaac cttgaccgga tgatagtcga 6300

ttaaaatatc gaaatgattg tgcaaaacgg ccttttcgct ctcgtcaagc tcaccgagag 6360

cgaagccagg agtgtaagcc tgaggctcgg ttccaagatt ctgttgcgcg gccggcaacc 6420

catctaccag ccagttgatg ttgtaaccct gcgctatcat ccggtcggtg aacttggcgc 6480

tccgagagtc aaacacgacc tccttgcaag ccgctttgca ggtctcgttc ttgcccatct 6540

tcagctcccc cggccccgtt tggattctgt ccccaaagag aatgcttaaa agcgactcac 6600

ggacatcctt cgggccatct tcggggg                                    6627
```

<210>   5837
<211>   3610
<212>   DNA
<213>   Aspergillus nidulans

<400>   5837

```
agtccatgct cgagatccgc actgaggcgt acgtttcgcc gcccatcctg gcctggggat      60

tcgaggcgga aacggtctac cgcatcaccg gcgacggcgc cttgactgtc aaggcacacg     120

tcaagcccag cggcgcaaag ccagtcgacg ttccccgagt cgggttcgac ctcgtccttg     180
```

```
cagacgagct ggacaacgcc tcctggttcg gcctgggccc gggagaatct tacgccgaca  240

agaagctgtc tcagaagata agcatctatt ctgcaacaac gtcggagctg cagacaccct   300

atgaagtgcc gcaagagggc ggaaacagaa tggagacgcg gtggctgcga ttgctcaaca   360

accgcggccg aggtgtttgc gtcacccgtg atgcagatgg agacgaggag caggcattcc   420

aatgggtcgc gacgcggtac agcgccgagt ctgtcgaacg tgcaaaacac ccaaacgagc   480

tctccccgga gaagagagtc cgcgttaggc tcgatgtcga gagcgcagga gtcgggactg   540

gagcttgcgg gccgaggact ctggagcagt accgggtgcc ctgtgcagaa aggcgcttcg   600

ggttcagaat tgcaccgtgg actaagtgag tattaggcgg ttagagggta tggaaatggc   660

agtagatgga ctaagaattg ggctctggcc tggtaatctg ccacttgtga gcatctccgt   720

agccaaggct ccgtcatagc atgttgactg ctattggtgc cctaattaat gctgcttcat   780

atcacctcaa ctattatcaa atgctacttc ctctagcagt ggtgatctag cagtagtgaa   840

taaattatga aatatgttga aatggcatgt tctaaggtat cctggacgtt catacttgcc   900

acaactcaga gaagttactg tttatacctg atatctacaa acctgatatc tacaagccag   960

tagatggact catagtatca gagcgtctgg accgttcagc ggcgagtcaa taccgcacgg  1020

tcttcttaca cccgttacag gcgcttgtct tgtaggattg atcaggcgcc attctcctgg  1080

cacggtaaat aagaccgcat cctcggacag gatacgaatg ctacctatcg agcagaattt  1140

atgagcatca aaactatttc cctttacgtt ctagtaggtg agcaggtcgg agatgagtgt  1200

cgcgcgatcc ctagaatgcg agagcgtaac ttctgcggtt caagcggtat aataatggct  1260

acgctaaaca agctcaggtg aaaagccata gagttcgaat aatacgagac acagaagcct  1320

ttggataaac aggtatggtt tctgtgtaga atcccttcgt ccaccggcag gaactgcacg  1380

atgtttaaaa ctgatgctga gctttgtgtg catcttgctc tcctggaatc ctgagtaagg  1440

taggaaacca tccacctata gggaggtaca tctaggataa ctcctctgat tcctcccctg  1500

tcatatacga cgagatatag gacgaggtct cttcgcgccc atagaagtcg aattgcgcgg  1560

agatagcata gtagcatagt tcgggtccat attcctaata agaataagag gcatctgccc  1620

atgtgccgtt gaggactgaa tagcttgcct gtcagtgtaa gatacctagg ttagcgtata  1680

gctgaggaaa aaggtatata acactccgca tcagctctta taccacaaat ccctactacc  1740

agacaactaa tagcgtggtt ccactctaga ccggcccact gtgaaatcgg agcctgtaac  1800
```

```
tctacttatc atatttatgg ccaaaagccc acaataaccc aggtttgtct gaagttaagg 1860

tcctacggcg ttagaagcag gtcaggggca ttactagggg agtgaaacca actcaagcac 1920

cctccggatt tctttccacc atcacgggtt caagggtact gtaacgggca taggcagtat 1980

tattttcaac tggctgtcct gtataaacga gtatcacaag cttagagaaa gaaacaaaag 2040

atagaagcgc agatatcttc ctcctccctt tatcaacctt tctgactttc cggacctgta 2100

tgccgacgga tcccttttcc aaagttatga ggacggatct cctttcctaa gcttcgaggc 2160

ctcaatcccg aagctgtacg ctgatattgc agaaaccttg tttagaacca ggttgagggc 2220

atggccgaca accaagatcc aggccatagc ctgtgacacc tggtacgatg ccttgtctt 2280

gctatcctaa caacagcagg tcatctagga gacaccatct ggaaagcttt ggagtaatat 2340

catgtgatcg gtttaaatta acgtacagtc tctagcgcca aggattcaac tttaagttcc 2400

cataacctcc ttaccacagg gctattggcg atcagaaacg tctgctggca ttcagagcac 2460

cttcgtgtca tggcggacac ttgactatcc agacatcaac agcctgacaa gacggctacc 2520

catactcgat tcgtcacggg tctaccctag atccgtaacg ggtaagccgt gggttgtgtc 2580

aaagtcggcg tggattaggg ctgccctagg cgttctgata gctgtccgca taaacgttgt 2640

cccgagcccc tacaaaatta agctaaaagg agtactctga gtgaagaagt aggaaggtca 2700

aggtgcttta agttcatgag atttaaaagg ggcagccgtt ctcaggacgt gcaaccccg 2760

cgttgcaacc ctgcatatcg gcatatgggc gctaggtagt ggttgcagct cgcgtagagc 2820

ttagcctgta aacgtattta cgtaagatgt ttcaggtttc catgtcctca gatatatatg 2880

ctcccagtac gcagagtgtg taggctgggt tctctgttca ggggtctgcc tcagcggtca 2940

gtattctttt ctgttgtgga ctacgaacca accgacatct tccgcctacc tcatttacct 3000

cagccctata aactcagtca aaccctatca tgttttcgag gctcctttcc accacggtcc 3060

tagtggccct ggccctcaca agccaagcag cccagacctt cagcaatacc ggcaccatcg 3120

ctggctggga cagcaccaac caagaacacc gcggcaccgt gcaagaagtc agcaacgtcg 3180

ccttcgaagg ttcccaagcc ctaaaagtaa cacaagtcta cgattccagc tacagcgggc 3240

gctaccactc ggagctcgta cataacgccg ctaccgccg cggcgaaacg gtttttatg 3300

gctttgcgtt ccgcctgcaa caggattggg actttacgag ccagtcgtac aatctcgcgc 3360

agtttatcgc tgatttcaac gattccgggt gcgacgactg gatgccctcg acaatgatct 3420
```

ggctgcaagg aaaccagctc tactcgcgcg tgaagacagg taccgtctgt gcgcagcaga 3480

cacagacgtt tgcgaatcta gcgtccgtct cggcgggtga atggcataaa attgttttgc 3540

aggtgaaatg ggagtctgac tcgacgggat ttttcaaggt ctggtttatg gggagaaggt 3600

caaacagtct   3610

<210>   5838
<211>   5344
<212>   DNA
<213>   Aspergillus nidulans

<400>   5838

tccatcaata ttgtataatc gtgtttgcac cacttacgta ccaggctagc agttagctcc   60

aggaaaacgg caccgacaca agtcactgaa ccacgatgtc cgaccaagat atgtccacgc   120

atattctcag gggaaaacaa gtcccccaac aagataatga cctccgcgaa gaatggcctc   180

ccgaatccgt cagcaactac cagatgatcc ctaaagagca tgcgtcaacc tcgctggagc   240

aacagacatg gcagcctcaa gcggcggaga aacagcagac agagtctcag cccctccttc   300

atcatcaagc tttcacagtt ctaatacag atgtcaatgc caatgtgcaa ggcagagtcc   360

cgaacagaca ctctctgtta ttcgaggagt ggaaagctag atctttacgg agcccagagc   420

aattgaatgc gctagctgca gtgcatgaag aaataacact gagaccaaga gaagcatatt   480

atcgggagat gttagggtgt tattagggga gcgctttgat aaacctggaa gtggtcgaaa   540

gaagattaag ccggttcagg atagccccccc tcaggctgaa ttgaacgatg caagaaaaaa   600

agagacatca ggcgatgaca aatccaaatc ggtggaacaa actgcaggat cagcctatgt   660

tcacacaacc cctaagccgg caaataaaga ctctattcac tatcccaaga ccgagaagtt   720

gcggaatagg gctacgtcta aagatgatag agcgctacta ggagaacact ctgatagagc   780

aacagacgcc caggcaacga ccagtttgga caacggttgt catgtccagc agaccaaggc   840

agccaaggcc gacagtacta ttacgtcgaa ggacaccaga tggtatggca ggaagaactc   900

caagcgagca agtattgttc aaacgagcaa ttcaattgcg aataatggcc acaagcagca   960

gtctaaagtc aagaatgaca ataccaacga aggtaggttc acttgcatat tcgctactga 1020

tacccagctc catataagga ccgctaacta ctgtttactt agaaggccat acacccgctc 1080

cattctccga aaacagcaat acgcccgttg tccagccaga aacaagctcc aggaaaacag 1140

12098

```
ggaatagagg aatcaaatcc atggagcgac agcatgatca cgagcgccag agatcccgta 1200

ggcgccaggc ttcacacgaa cggcaatttt cccaaagacg cctggcccag gaactgcgac 1260

cctctaaaga gccgcagccc ccacgggcgc ttcagcctgc tcacgcacag caatcctctg 1320

agaagtgcca ggattcccaa gcacaacaac cttcccacgc acgtcagcct tctagagaac 1380

accagggctc cagtgaacgt cacacctacc cctcagaaaa gggctctata gaacgcaagc 1440

agcgctcccg ggagcgcacc cacgagcagg tagtgtatac agctcaaaat ggtactcggt 1500

atggggtgga cgagctgaga agactggctc acggagtcaa gatcagcgcc aatgttaagg 1560

tgtatttcat tccttgcttc attggagacc cgtggaaaga tgtcgagccg gtcccttgtg 1620

tccgtccgcc ggacctcatg agccgattct gaacgtatgt ttaacctaac catacgtctt 1680

tcgcattaaa ccataagaga ctcggcaatg gatgtgtccg tttgacttga tggatgttct 1740

aagttagttg attttccctg ttatctcgca tcacttagtg acaggggggg tttgactatt 1800

aatatgagcc cccaaaaggt tgaagtcaat tgcacaatta acttctagta catgacgaat 1860

ttgagaatct gcacaatcgt cacatggctt aaaacatgcc aaggctttat gctttcctct 1920

tccggtaaaa tcacgtgatg tttagatgac cccttgaagg atctattctt ccacttttga 1980

tgcctaacgt cagcaaattg ggtgcttggt gcctgatggg acgcactact tactaaacag 2040

cataataaac aaaatgaagc gggcggggcg gaggtatagt ggtgaaactt gcaacagctc 2100

gtgcgttgaa tgacaattat ttggttaggg atctggctgc ggcttgtcat tcaatgccct 2160

gcgatcagct gcagcagagg actgcacagt ttactcctgg ttaggtctgg tctcttttcg 2220

aattgggaca ggacatggaa gacacagacg gtcgactgag gcgcgatgaa agggtgactg 2280

ttgtcttcaa attgggcagg ggtactccca gtcctcctgc tcaccatgtg cctacaacac 2340

gtgcggcggg aattatacat taggggcacg tatagtcaat ggtcgggagc aattctaggg 2400

gtgcagaagc atatgcagtg accccgtttt ctaccgtagt gccactgcgg ccggcgaggt 2460

aagctactct gtacaggggg ttgtcaattt gactttggct gcgctgggct ggtcaccctt 2520

cattttcagg aaacgcatct taacacggcg caacagttat atttggccaa tcaaactcgc 2580

tatcaaagtg actgaaagcc ctgcgttggt acagaagata caatgatcga gaagtatccc 2640

aatccaaacc aagaccggtc ccagattcaa gcgcgaaaac agaaaacgct agaagtaccc 2700

aatatcccac gtaatcagac ctatgtgaaa aagaagaaat gatgtcatcg tcagtgtcgt 2760
```

12099

```
tacaaagttc atatgttggt cttttagaga gccaaaacag ataagcggaa agaaagcaag 2820

gaacccagtc ttgacggaga ctaattgtcg tccaacgtat acttcttcga agctcgccgg 2880

tattcgtctg ggcgaaggct ttcagccttc gatttcaata cgctaaattt catagactcg 2940

tcagcttgcg tgaatcacac tgagaggacg ctaattcttc ctctgcgggg tccgatcaca 3000

ttgctagcag ccaatccgcc aagagttgct atgatggcgg agcggacatc cgctccctat 3060

gagcggagcg gaacctgacg acttgccgct ggcgcaaaaa ggacatggga tccaatggca 3120

agaaatgggc caaagcctca ccttacacgc ttttgagtcc attccaaatc tcgcttggtc 3180

tcccgggcga ctttgattcc gtcggcgaaa cttgagcgca cgcctttcaa gcgtctttgg 3240

gcgagagcat gcaattcgag gagctcatgc tgcttggcat tgagctggcc agagctgtta 3300

tttcagcgat tagtccaatt cttcgagttc ttctgtctcc aacatttctg agctcacgta 3360

tatcgagtgc gaaaaggtca ttctccgccc aggggatgcc aggagtactt acgcttgcgc 3420

ttgcatagct aatcctttgt ccaatggtgt ggggtcgaac gcattttgca aacgatcatt 3480

gagaacgtcc acaacgtcca cactcgagaa ggaacccgag ctagactcat agtcgctgct 3540

cgcgctaccg gcgctgtagc tgaacccgcc agaagtgcgg ctgcccgtcg tggtgcttgc 3600

gtccgacaga tccggtgggg agcctgacac tcggctgata gggtagaggc tggcaggacc 3660

aggggtcttc gagggaacat tcattggaag agcaggggat tggtagttgt gggttgccat 3720

tgtggaaaga tgaaggcttg aataggttga caaagaagc aatctgcgga gttaagtatg 3780

cgaagggagt ccttgaagaa aagcagtgat gctttatgaa gtctcaggtg gaaggaaagc 3840

ttgggagatg gaaaaggaag agggagggat gaggacgaca gcacgaaagt tgacggcttt 3900

tatagccctc cgcggagagt cttccatccg gcggaacccg tcacgaagac ggcaacgagg 3960

acaagagagg gagtagagga gggggtgaat gtgatggcca ggtcaatcat tgggtggacg 4020

actatcacag cggctttttt cccgtacccc ctaatccccc tcctccaggt ccggccagtt 4080

cccttcaagc ccaacccccc aattccgccc ctccccaatt tctggtcgcc aattcgctcc 4140

tcatcccgaa acgacccgc tttaggtgga aagacgagga gctagaggag ccaaatcgac 4200

gtccaaggac tggtccagcc ctcacaatca ctccggcatt gagacacaag cccacatgcg 4260

agtggctaat cggggatctc gggcattgaa tttgtctcag tttttccctt ctcattccgt 4320

cgggctgtaa aggaattgga cttggggacg catgaaaatg tataaagcag gcgggagtga 4380
```

```
cgcgggaagg tatgtctgtc cgtccaagag tcttatagaa ggaggctcgg ccgccggtga 4440

tgacttactt tcccacaact tcccatccgc tttctctact ccacgagatc ctcccagcct 4500

aaccggtatt cgaatcttgt ctctttagaa ggcttctttt ttacatgagc atcagagggt 4560

cactccaagc caatatcggg gggctgggtg gctggaaaag tatggaagtc tgagagaatc 4620

acagagcaat gaaagacggc gcatatgaca gctacagagc cgcttaacgc cgaagccccg 4680

aattaccttt ttaaagaata tgttcgaaca gacaccggct ggtattcccg ttcgtgaaga 4740

tgaaaatata tgtctgacgc ttcttgttct cttcagaata aaagtatcgt ccctgcaggc 4800

gacgttaggg tagtggtcga ggcagggtca tgtcatcatg ggtactttct tccgcacttg 4860

tgagtctgtg attttcgtgc ccaatacctt ccgctgccgt cttctcttcg caactctttg 4920

acagtctgga agatgcagtc tgagatgcgg ggctgacgca accacagagt tcgaacctga 4980

taaaagtagg gaattatcag ctgtcaaggt aactagttgg acagcagtgc ataaactgtg 5040

gccggagcga ggcccaagag tgcgccgaac gcctcgaact tcggcgccag gtcttgtcta 5100

ttaccatcgc aataccgaga gcctgaaact gagcgggtgg cacgacatct ggaaagaaac 5160

taagaccgtg taacgagaga gaatcctcat tctccctgag tgaagaaagg ttggatgagt 5220

tggcgattca gtgttctcga tgtgcgcaat tggacggttg ttcatccgct tggacctcga 5280

cttccaggaa acagcctcat ccggagggtg gcttttagag cagatttgcg ggaaaacaga 5340

cggc                                                                5344


<210>      5839
<211>      7389
<212>      DNA
<213>      Aspergillus nidulans

<400>      5839

aaattggcag gcctagaaaa aaaaccatcc caggggaggg gttttttttt ttaaaaaaaa   60

ccctcccaag gggattgggt tccccgaatt gtgaaacaga aaatatttcc cccatttggc  120

gttattttcc cttcccattg gaaccagatc caaatctttc ggcaacccag gggtgccgga  180

ataaggggat tgcggccaca agctttgctc caggggcac aactcagccc gcacggagag  240

ttgttggaaa ccgctcacga gccaaatcct gacctgtggt ctatcaagat ggcttaaaca  300

ccaaaaaaaa aacagccgaa gcttatggag tgctacctca tgaatctcgg tgtctccatc  360
```

```
actgcaaata accagtaggc gccacgaaag ataaagatcc cgaggatgtg gtaccgacta   420

ccccaagaaa aaagcaaaag gtagcaaacg cttcgccaca atctcgacgg cagaaggcga   480

tgaccactcc atctcataag aggtatatga acattccccct gcaattgacc ataatgctaa   540

cagccttgac tagaatcatc gtcaagaagc cactcgaatt cactccactt gggactcgcg   600

tgctatcccc tgcccatttt gcatcaccct accgacaagc tcgcaacctc ctccatgttt   660

ctgccgttcc ggactcgctt ccctgccgga agaaggaatt cgacacagta tatagccacc   720

tcagtgctgc cattatggag gggacaggca cctgcatcta tatttctggc acaccaggta   780

ctggaaaaac agccactgtc cgcgaagtcg tcgcgcagtt gaatgccgcc gtacttgcag   840

aagagatgga cgacttcata ttcgtggaga taaacggcat gaaagtcacc gaccctcatc   900

agtcctactc cctgctttgg gaggcgttga agggtgatcg agtgtcacct ccccatgccc   960

tcgatctgct agatcgggag ttctccaacc cttcgcctcg aagagtatca tgtgttgttc  1020

ttatggacga gttggaccaa ctagtcacca agaaccaatc agtcatgtac aacttcttca  1080

actggccagc cctcagacat tcgcgtctca tcgtgctcgc cgtcgcaaac accatggacc  1140

ttccagagcg aaccctaagt aacaaaattt ctagccgtct gggtctaacc cgcattactt  1200

ttccaggcta taagcatacg gatctaatgg agatcatcac tactcgatta gccagcgtgc  1260

ctggcaagat cgttgattcc gacgcgatcc aattcgctag ccgcaaagtg gcggcagtga  1320

gtggtgacgc tcgacgcgcc ctagacatct gccgacgcgc ggtcgagatt gcggaacaaa  1380

gcaacgaagc cgccggagta gaagccctgg atgcggacga caccgagtcc ctccctccga  1440

cacccagcaa gactgctgcg cggaaagaaa gagcaaacgc aaaacaaacc ctttctatat  1500

cgccgcaaaa atccaccgcg actccaagga aacaaacacc cggtcgcgtc accatcgcaa  1560

caataaagca agccatccag gaagctacct ccaccccct gcagcaatcc ctccgctgtc  1620

tcccgctctc cgcgaaactc ttcctagccg ccctccttgc acgcgtccgc cgaacaggaa  1680

taacagaatc caccttcggt gacgtcaccg atgaagcgaa acgcattgcc gacgctgcgg  1740

tagcagttgc tggagctgct ggtgcaggaa ttaaagaatt cttgcttgct ggtggcaccg  1800

ggacccgtgt tcaggcgttg ggatttgcgg caatggagct catgaattca ggggttcttg  1860

ctttagaggc cacttccggt tctagaggct taggggggcgc ggcaattccg acgaggggcg  1920

atcgtagtgg aaaggtgagg ctcagggttg cggcggaaga tgttcgcgct gcgtttcgag  1980
```

12102